DOCUMENT RESUME

ED 058 008 24 RE 003 954

AUTHOR	Goodman, Yetta M.
TITLE	Longitudinal Study of Children's Oral Reading Behavior. Final Report.
INSTITUTION	Michigan Univ., Dearborn.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C. Bureau of Research.
BUREAU NO	BR-9-E-062
PUB DATE	Sep 71
GRANT	OEG-5-9-325062-0046
NOTE	104p.
EDRS PRICE	MF-$0.65 HC-$6.58
DESCRIPTORS	*Error Patterns; Grade 2; Grade 3; Negro Dialects; *Oral Reading; Phonetic Analysis; *Reading Development; *Reading Difficulty; *Reading Research; Semantics; Structural Analysis; Syntax

ABSTRACT

Four Negro children's (two average and two slow readers) oral reading was taped at eight regular intervals during their second and third year of reading instruction in order to analyze their oral reading miscues and to discover any developmental changes. Retelling of stories read was also taped to measure comprehension. The miscues were analyzed using the Goodman Taxonomy of Reading Miscues. Attention was paid to phenomena of dialect and development on various levels of language. All subjects produced miscues, although average readers produce fewer miscues than slow readers. The substitution miscues had a strong tendency toward some graphic and phonemic similarity and were often the same part of speech as the text word replaced. The miscues were also mostly semantically and, even more so, syntactically acceptable. The subjects tended to correct miscues which resulted in unacceptable structures, using selective strategies. Average readers used these strategies to a greater extent than slow readers and were more able to emphasize one strategy over the others while using all the language cue systems at the same time. There were developmental trends for many of the strategies, especially for the slow readers. Appendixes, including the Goodman Taxonomy of Reading Miscues, and a bibliography are included. (AW)

PA 24
BR 9-E062
RE

ED0 58008

FINAL REPORT

Project No. 9-E-062

Grant No. OeG-5-9-325062-0046

LONGITUDINAL STUDY OF CHILDREN'S ORAL READING BEHAVIOR

Yetta M. Goodman
Associate Professor Education
University of Michigan—Dearborn
Dearborn, Michigan 48128

September, 1971

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

RE003 954

ED0 58008

FINAL REPORT

Project No. 9-E-062

Grant No. 0eG-5-9-325062-0046

LONGITUDINAL STUDY OF CHILDREN'S ORAL READING BEHAVIOR

Yetta M. Goodman
Associate Professor Education
University of Michigan-Dearborn
Dearborn, Michigan 48128

September, 1971

This research reported herein was performed pursuant to a grant with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

U. S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

TABLE OF CONTENTS

LIST OF FIGURES iii

SUMMARY vi

Chapter

I. INTRODUCTION 1

Purpose 1
Rationale and Related Research 1
Procedures 4

II. MISCUE PHENOMENA 10

Miscues 10
Dialect 15

III. LEVEL OF LANGUAGE AND MISCUE TYPE 30

Clause 30
Phrase 30
Word and Free Morpheme 31
Bound and Combined Morpheme 35
Submorpheme 35

IV. CUE SYSTEMS IN LANGUAGE 36

Intonation 36
Graphic and Phonemic Proximity 39
Semantic Word Relationship and Grammatical Function 46
Transformations 48
Semantic and Syntactic Acceptability 49
Semantic and Syntactic Change 59

V. CORRECTION STRATEGIES 62

VI. RETELLING THE STORY 70

VII. CONCLUSIONS 76

Summary 76
Implications 80

APPENDIX

A. The Goodman Taxonomy of Reading Miscues 82
B. Bibliographic Information on Each Story 88

REFERENCES 91

COMPLETE BIBLIOGRAPHY OF READING MISCUE RESEARCH STUDIES 94

4

LIST OF FIGURES

Figure Page

1. Names of Stories, and Dates Read 6
2. Miscues Per Hundred Words 11
3. Range of Miscues Per Hundred Words 12
4. Comparing Range of Miscues For First and and Second Year Study With Second and Third Year Study 13
5. Stories Listed According to Grade Level With Miscues Per Hundred Words For Each Story 14
6. Phonological Variation Miscues Per Hundred Words 19
7. Grammatical Variation Miscues Per Hundred Words 21
8. Range of Phonological and Grammatical Dialect Miscues Per Hundred Words 22
9. Comparing Dialect Miscues of First and Second Year Study With Second and Third Year Study 24
10. Percent of Uncorrected and Corrected Dialect Miscues 25
11. Super Correct Miscues Per Hundred Words . . 26
12. Comparison of Super Correct and Dialect Miscues Per Hundred Words 27
13. Percent of Clause Dependency Miscues . . . 32

Figure Page

14. Percent of Types of Miscues on the Word or Free Morpheme Level 33

15. Percent of Reversal Miscues on Various Language Levels 34

16. Percent of Intonation Miscues 37

17. Graphic and Phonemic Similarity Mean Scores 40

18. Percent of Graphic and Phonemic Similarity. 42

19. Percent of Graphic Similarity for Various Sub-categories for Each Session for Frank 43

20. Percent of Graphic Similarity for Various Sub-categories for Each Session for Altha 44

21. Percent of Syntactic and Semantic Acceptability 51

22. Percent of Miscues Which Produce No Syntactic or Semantic Acceptability . . . 53

23. Percent of Non-words 54

24. Percent of Non-words in Relation to Syntactic Acceptability 55

25. Percent of Graphic and Phonemic Similarity for Non-words 55

26. Difference Between Percent of Graphic and Phonemic Similarity on All Miscues and Percent for Non-words Only 56

27. Percent of Omissions and Their Relation to Acceptability 57

28. Syntactic and Semantic Change Mean Scores . 60

Figure Page
29. Percent of Syntactic and Semantic Change 61

30. Percent of Miscues Corrected and Comparison With First and Second Year Study 63

31. Percent of Correction for Sub-categories of Syntactic and Semantic Acceptability 65

32. Percent of Correction for Sub-categories of Syntactic and Semantic Change . . . 67

33. General Rating Scale For Stories 71

34. Retelling Scores 72

SUMMARY

Four children's oral reading was taped at eight regular intervals in order to analyze their oral reading miscues during their second and third year of reading instruction. The miscues were analyzed using the Goodman Taxonomy of Reading Miscues which was developed through the applications of psycholinguistic principles to reading.

The major purpose of the study was to discover through systematic analysis of young children's reading miscues how children learn to read and the developmental changes which occur as readers grow from beginning reading toward proficient reading.

Although developmental trends were discovered the period of time involved may have been too short and the tasks too unique to present firm findings. The difference between the slow and the average readers is the major aspect which emerges from this study. Both the developmental trends and different profiles for the average and slow readers have implications for teachers, teacher training, diagnostic instruments, publishers of reading materials and research in reading.

The readers all used the same reading strategy. They made miscues which they tended to correct if they resulted in semantically and syntactically unacceptable structures and which they tended not to correct if they resulted in acceptable language structures. They all used phonemic and graphic correspondences in word substitutions which were often the same grammatical function as the text word. There were developmental trends for many of these strategies especially for the slow readers while the average readers use of the strategies seemed to be dependent upon the reading task. Average readers used these strategies to a greater extent than the slow readers and seemed to have better judgement about when to emphasize the use of one strategy over the other using all the language cue systems at the same time.

The reading process seems to be complex as readers make use of the interrelationship of the language cue systems in the reading material and apply their own knowledge of language

to these systems in order to make reading successful for them. Some readers are able to use this ability to a great extent even during early reading. Miscue analysis is an aid in being able to explore how this happens and in what ways children who use reading strategies to a lesser extent can be helped to make greater use of them.

I

INTRODUCTION

Purpose

The major purpose of this research study has been to discover through systematic analysis of young children's reading miscues, how children learn to read. Evidence from longitudinal and crossectional data of four children's miscue behavior will produce hypotheses about (1) developmental stages or steps children may go through as they move toward proficient reading, (2) the time at which proficient reading takes place, (3) the language sophistication of children as related to aspects of learning to read, (4) the relationship of language to the proficiency of reading of children, and (5) how children differ from each other in any one of the areas to be examined. The objectives of the study include:

1. Describing the observed development of oral reading in selected young readers during their second and third year of reading in school.

2. Formulating a concept of reading as a developmental process for (a) research, (b) enlightenment of teachers and (c) development of materials and diagnostic instruments.

3. Formulating testable hypotheses which can be researched with larger numbers of children and subsequent research on these same children as they get older.

Rationale and Related Research

Little has been known about the actual developmental steps which occur in the individual child as he learns to read. Although many basal readers and programmed learning materials indicate sequential steps through which children must go to learn to read there is no evidence to support any of the present contentions concerning sequential skill development in learning to read. McKim (1961, p. 274) says,

"...it has not been demonstrated that there is any one 'essential' sequence of specific experience...."

One of the reasons that little has been known about the acquisition of reading in children may have stemmed from a lack of understanding reading as a psychological and language related or psycholinguistic process. The central task of psycholinguistics is to describe the psychological processes that go on when people use language (Miller, 1965).

Researchers in psycholinguistics have been raising questions about reading research because of an apparent absence of hypotheses based on psycholinguistic principles (Berko and Brown, p. 517). Carroll (1964, p. 336) states "...the nature of reading as behavior has still not been accurately described in light of knowledge from the two most relevant disciplines, psychology and linguistics."

Recent literature is beginning to reflect an awareness of basic psycholinguistic principles in regard to reading. "The child learning to read, like the child learning to speak, seems to need the opportunity to examine a large sample of language, to generate hypotheses about the regularities underlying it, and to test and modify these hypotheses on the basis of feedback that is appropriate to the unspoken rules that he happens to be testing (Smith and Goodman, 1971, p. 179)."

The need to look at reading behavior from a perspective of psycholinguistics underlies this research. The Goodman Taxonomy of Reading Miscues is used to examine the reading miscues because it applies psycholinguistic principles to the analysis of children's reading behavior (see Appendix A). The Goodman Taxonomy has been used in a number of studies "...to analyze every miscue, (each instance where a reader's observed response (O.R.) differs from the expected response (E.R.), of the subject in order to observe how the reader is operating with the various kinds of input and to become aware of the strategies he is using (K. Goodman, 1969, p. 18)."

Recent research from these studies of children's miscue behavior suggest that overlooking the inter-relationship between a child's oral language, his syntactic and semantic systems and the written material to be read may have caused the many misconceptions about reading that teachers and researchers have been operating on for years. (See Bibliography B for separate listing of these studies.)

The Goodman Taxonomy provides a number of questions to be asked about each miscue, since the reader has, in every case, produced his response through the use of the wide range of information available to him in the reading process. Each question is answered on its own merits and the researcher does not have to choose between possible cues and causes. "Indeed, in any individual miscue, it is rare that one can say with strong assurance what exactly has taken place. But the patterns which emerge produce a picture in depth of the reading process in the reader (Goodman, 1969, p. 19)."

Although there are no studies which have observed the same group of children over a period of two years using reading miscue analysis, there are some studies in reading error analysis which have dealt with children close to the age of the children being studied in this research.

Clay (1969, p. 47) studied the behavior of a group of beginning readers for a period of one year. She found that children often had reading problems because they got bogged down too long in any one phase of the process. This gives evidence that certain kinds of reading miscues are indicative of particular development of reading phases. "Because any word within a sentence fits a matrix of relationship--phonological, morphological, syntactic, semantic and graphic--a mature reader may use cues from one or more of these dimensions along which words differ. The beginning reader, by definition, has limited knowledge that these dimensions exist."

Weber (1967) conducted research into the reading errors of first grade children. Weber's and Clay's results suggest the importance of more depth analysis of a small group of children in order to obtain as comprehensive a picture of developmental reading processes in children.

Chall (1969) suggests longitudinal research on children's reading errors. "It seems to me that longitudinal studies of oral reading errors carried out on the same children over a number of years may be one of the best ways to study how children learn to read.

In this study 1,961 miscues are subjected to analysis of twenty different linguistically formed categories which yields 39,220 bits of information or an average of 9,805 bits of information for each subject. The complex procedures involved and the large amount of data generated through this type of reading analysis make it necessary to study small numbers of subjects in depth. Ervin and Miller (1965) in an examination of research in child language development state, "It is necessary, first, to develop techniques and discovery units through the study of individual systems before comparison between individual or group studies are possible. Using this general rationale, the number of subjects used for this study has been small. A prior study by the project director was a beginning attempt to describe oral reading phenomena in six beginning readers. Although data on the same six children has been collected only the data on four children has been analyzed for this study in order to facilitate an early completion of this report. This study will follow up the trends which were suggested in the dissertation research which preceeded this study and generate new hypotheses and new or continuing trends on the additional data gathered and analyzed (Y. Goodman, 1967).

Procedures

General Design. The study is a longitudinal developmental study of four children's oral reading miscues. Children were taped at regular intervals from November, 1966 to June, 1968 for the most part reading materials which they had never seen before. In a few instances they read the same material they had read earlier in order to see changes over time on material for which the subjects had not received specific instruction.

Population and Sample. Four selected readers used in a previous study were the subjects: three boys and one girl. Two children had been designated as average readers and two as slow readers by their first grade teachers. The children represent a relatively wide socio-economic range in family background. All are Negro. The two readers designated as average readers by their first grade teachers and so termed in this study are both boys. They were considered proficient readers by their teachers during the study. They will be called Faust and Tony. The slow readers, who will be called Altha and Frank were still considered slow readers by their teacher during this study. The children were all in a nongraded program, and had been in school for two years and three months when this study was started. They were all beginning their second year of reading instruction. The children were in heterogeneously grouped classrooms and although some of their teachers stressed more phonics than the others, generally all the teachers used an eclectic approach to reading with basal reading materials as the basis of the reading program. These children had many other books available in some of the classrooms and there was a good library available to all the children in the school. This study focuses on the children's oral reading miscue behavior during their second and third year of reading instruction. Data will be sometimes compared to an earlier similar study in which all these children participated. The earlier study will be referred to as the first and second year study and this study will be referred to as the second and third year study when the two are compared.

One of the limitations in comparing this study has been the emerging nature of the Goodman Taxonomy. Various categories have been modified and expanded since 1966 when the first and second year study was begun. Categories have been added and eliminated and still other categories, although they remained the same, have been reexamined and the criteria for their coding have changed. This limits the comparison of the data from this study with the earlier one and suggests a subsequent study when all the data collected should be analyzed at one time to get the full scope of the developmental differences of the subjects involved. The two studies will be compared only when data is compatable.

Data Collection and Instrumentation.

1. Each child was taped regularly for a two year period, reading material new to him. Figure 1 lists the stories read at each session by each subject. The material was usually chosen so it posed some reading difficulty without causing undo frustration. (For complete bibliographic information on each story see Appendix B.) The child read orally from the text of the material and the researcher followed the reading of the material using a typescript of the material recording all overt behavior. This typescript is called the worksheet.

Figure 1.--Names of Stories, and Dates Read

Subject	Faust	Tony	Altha	Frank
Nov., 1966 Session 1	Let's Make Gus Smile Book III	Home At Last Book II	Little Monkey Primer	New Doll Primer
Jan., 1967 Session 2	Freddie Miller, Scientist Book V	Kitten Jones Book III	New Doll Primer	New Doll Primer
March, 1967 Session 3	My Brother Is A Genius Book VI	Andre's Secret Book IV	The Big Surprise Book I	The Big Surprise Book I
May, 1967 Session 4	Billy Whitemoon Book III	Billy Whitemoon Book III	What Is Big? Primer	What Is Big? Primer
Nov., 1967 Session 5	The History of a Hot Dog Book V	The History of a Hot Dog Book V	A Lot To Tell Book I	A Lot To Tell Book I
Jan., 1968 Session 6	Not Available	Seven At One Blow Book IV	Fun In The Snow Book I	Fun In The Snow Book I
March, 1968 Session 7	My Brother Is a Genius Book VI	Freddie Miller, Scientist Book V	Not Available	A Lot To Tell Book I
May, 1968 Session 8	Sheep Dog Book VIII	My Brother Is A Genius Book VI	Not Available	Halloween On The River Book II

Except for What Is Big, The History of a Hot Dog, and Sheep Dog the written material was from the American Book Company, Betts Basic Readers. Such material was used because it was a continuation of the graded basal reading series used in the previous study. The use of materials graded by at least one commonly accepted method provides for a common base for discussion purposes as developmental principles are examoned.

The first two of the other stories previously cited are published by Holt, Rinehart and Winston, Sounds of Language Readers. They were used to provide an alternative linguistic and literary style to compare with the more traditional reading style of a basal series. Sheep Dog is an Allyn and Bacon publication.

2. Some children reread a section of a previous session's reading during a subsequent session in order to see changes. This information can also be discerned from Figure 1. This was taped and the child's overt behavior recorded.

3. The child was asked to retell each story to be read in his own words at the end of the reading of the story. The retelling of the story was taped and rated for comprehension.

Analysis. All material the children read was subjected to the following analysis.

1. Every miscue made was marked on the worksheet by the researcher during the interview session with the child. This session was audiotaped.

2. The material the child read was analyzed a second time listening to the child reading from the tape in order to produce an official validated worksheet.

   In order to provide for rater reliability in the marking of the miscues on the official validated worksheets, three listeners were involved. In 67 percent of the miscues all three coders agreed. Of the 33 percent of the miscues which needed resolution, 90 percent of the miscues showed agreement between two of the three listeners. Of the 33 percent of miscues needing resolution, the one listener who differed in his marking immediately or easily agreed with the other two listeners by listening to the tape once again without being told what the other two listeners had heard in 84 percent of the cases. In 13 percent of those still requiring resolution, there was some discussion among the coders and then based upon the criteria and redefinition of some of the parameters, all listeners were able to agree. In 4 percent of the cases, a fourth coder was brought in and when three of the four agreed, that was the decision accepted. In summary, less than 1 percent of all the miscues coded required a fourth person to resolve a problem which the three coders could not agree upon. Based on the high percentage of initial agreement plus the easily resolved questions of identifying miscues (90 percent), it was agreed that two coders would be sufficient in coding the worksheet and when two coders could not agree a third coder would be asked to listen in order to reach consensus.

One story read by each of the children totaling 715 miscues was used to establish listener reliability. Major differences were never raised concerning the identification of a miscue. Differences usually were concerned with the absence or presence of phonological aspects related to omission or insertions of final "s" or "ed" generally related to dialect differences or when such words preceeded words which had an initial sound of /s/, /t/, /d/. Intonation especially in terms of terminal punctuation was another area which appeared frequently among the difficult to resolve miscue identification.

3. All miscues were counted and categorized using Goodman's Taxonomy of Miscues. This instrument examines each miscue in terms of (1) levels of cue system within the language; (2) how the children handle the miscue once produced; and (3) types of miscues.

4. Miscues were compared for each successive session.

5. The comprehension of the story was measured from the oral retelling of the story. The comprehension measure answered the following questions:
    a. Does the child get at the plot and theme?
    b. What awareness does he have of characterization?
    c. Does he understand some of the subtleties of the story?

6. The comprehension measure for each successive session was compared.

II

MISCUE PHENOMENA

Miscues

A miscue is an observed oral response in reading which differs from the listener's expected response. Miscues coded for this study included all phonological, vocabulary and structural differences from what the listener expected to hear. These observed responses included insertions, omissions, substitutions and reversals of language units at various levels as well as regressions or repetitions.

Miscues were divided into two major groups for analysis. One group was coded using all available categories in the Goodman Taxonomy. This group of miscues will be the miscues referred to unless otherwise so designated.

The miscues for the four subjects studied tended to be word for word miscues. However, children occasionally produced a miscue which involved language units greater than the graphic word. These complex miscues were counted in the overall statistics on miscues as single miscues but each language unit within the complex unit was coded in the appropriate categories of the taxonomy.

A second group of miscues were multiple attempts upon a single graphic item. Whenever a reader produced a miscue on the same graphic item more than one time, it was subjected to a separate analysis in order not to inflate the general miscue data. Miscues which involved only phonological dialect variations were also subjected to separate analysis and not included in the overall statistics on miscue data.

Miscues Per Hundred Words. Figure 2 gives the total number of miscues coded using all categories of the Goodman Taxonomy and miscues per hundred words (computed by dividing the number of miscues by the number of words in the story and multiplying by 100). Miscues per hundred words (MPHW) are then listed by session. By examining Figure 2, it becomes clear that MPHW is not an important figure independent of other information.

Figure 2.--Miscues Per Hundred Words

	Faust	Tony	Altha	Frank
Total Words Read	11,471	8,331	1,691	2,596
Total Number Miscues	558	415	201	334
MPHW For All Sessions	4.9	5.0	11.9	12.9
Session 1	3.0	5.1	6.9	13.9
Session 2	1.7	6.3	9.1	5.3
Session 3	4.5	5.7	12.0	13.1
Session 4	4.8	3.3	10.4	8.1
Session 5	9.0	11.3	12.8	11.5
Session 6	NA	1.1	15.5	15.2
Session 7	6.1	5.2	NA	9.3
Session 8	5.7	6.0	NA	20.2

Not only is there no trend from session to session concerning MPHW but there is no consistency for any subject and there is quite a range of miscues per hundred words for each subject, as shown in Figure 3.

Figure 3.--Range of Miscues Per Hundred Words

Faust	Tony	Altha	Frank	
9.0	11.3	15.4	20.2	
6.1	6.3	12.8	15.2	
5.7	6.0	12.0	13.9	
4.8	5.7	10.4	13.1	
4.5	5.2	9.1	11.5	
3.0	5.1	6.9	9.3	
1.7	3.3	NA	8.1	
NA	1.1	NA	5.3	
7.3	10.2	9.5	14.9	Amount of Range

Comparing range of miscues per hundred words to the data on these subjects from the first and second year study reveals comparable results. Figure 4 compares the two studies.

In the first and second year study the range of MPHW was greater for the slow readers than for the average readers. In this study, the range of MPHW of the average readers increased as did that of the slow readers. However, if session 5 data on MPHW had been excluded for the average readers their range of MPHW would have been more consistent with data from the first and second year study. The story read in session 5 was History of a Hot Dog, which presented the average readers with a very different type of reading task, compared with the more traditional type of fictional story material in the basal. Difference of material may have an affect on MPHW. It will be significant to research in what ways differences in material affect MPHW as well as other miscue phenomena. Carlson's (1970) data on different reading materials, science, social studies and the basal reader, found considerable variation for most forth grade subjects in different types of materials in terms of MPHW.

Figure 4.--Comparing Range of Miscues for First and Second Year Study With Second and Third Year Study

	Subject	Amt. of Range	Range
	Second and Third Year Study		
Average Readers	Tony	10.2	1.1-11.3
	Faust	7.3	1.7- 9.0
Slow Readers	Frank	14.9	5.3-20.2
	Altha	9.5	6.9-15.4
	First and Second Year Study		
Average Readers	Tony	5.6	4.8-10.4
	Faust	4.8	3.7- 8.5
Slow Readers	Frank	11.5	7.7-19.2
	Altha	8.0	6.3-14.3

Other variables besides development must affect MPHW that subjects produce. Viewing miscue data according to the graded difficulty of the reading material also is not an indicator of the variability of MPHW. Placing the texts in order according to graded difficulty and listing the miscues per hundred words for each story again reveal an inconsistent pattern as shown in Figure 5. Faust read a fifth grade basal story in session 2 and had his lowest MPHW. In History of a Hot Dog, another fifth grade story read nine months later, he had the highest MPHW.

Although for Altha and Frank miscues per hundred words tended to increase from session to session even though they stayed in the same grade level book for most of the sessions, the average readers' patterns vascilated from session to session regardless of graded difficulty.

The average readers almost always produce fewer MPHW than the slow readers.

Summary, Discussion and Implications. Quantitative miscue phenomena examined session by session or in relation to the graded difficulty of the text show no simple developmental decrease or increase of MPHW, and therefore by themselves do not indicate a picture of developmental reading pro-

Figure 5.--Stories Listed According to Grade Level With Miscues Per Hundred Words For Each Story

Text and Grade	Faust	Tony	Altha	Frank
What Is Big? Primer			10.4	8.1
Little Monkey Primer			6.9	
New Doll Primer			9.1	13.9/5.3*
The Big Surprise Book I			12.0	13.1
A Lot to Tell Book I			12.8	11.5/9.3*
Fun In The Snow Book I			15.5	15.2
Halloween on the River Book I				20.2
Home at Last Book II-2		5.1		
Kitten Jones Book III-1		6.3		
Let's Make Gus Smile Book III-2	3.0			
Billy Whitemoon Book III-2	4.8	3.3		
Seven at One Blow Book IV		1.1		
Andre's Secret Book IV		5.7		
History of a Hot Dog Book V	9.0	11.3		
Freddie Miller, Scientist Book V	1.7	5.2		
My Brother Is a Genius Book VI	4.5/6.1*	6.0		
Sheep Dog Book VIII	5.7			

* Story read twice. First score earlier reading, second score represents later reading.

ficiency. Range of MPHW may be a more significant feature in understanding children's reading development than an absolute figure for MPHW for all children in all reading material

The analysis supports various generalizations stated in the previous study. (1) All subjects made miscues in reading. (2) Among average readers and slow readers miscues per hundred words varied from child to child and from reading to reading for any one reader. Average readers make fewer MPHW. (3) Judging by MPHW basal reading materials do not appear to increase consistently in difficulty for these subjects since material presented later in the basal reader could have fewer or greater MPHW.

How many miscues a child produces per hundred words or on a page of reading is not in itself a significant measure of how frustrating a passage will be for a child or how much he will be able to comprehend in his reading. A common myth strongly adhered to in many reading programs suggests that when a reader misses five words in the first one hundred words he reads the material is too difficult. Some researchers or experts refer to this as the frustration level. There is no evidence to support this notion. Diagnosers of reading problems in children must look beyond numbers of miscues (or errors) to more significant information.

Dialect Phenomena

The field of education has been in turmoil of late concerning the affect of dialect differences on learning to read. The following questions have been raised:

1. Is the dialect of the various non-standard speakers of English so different from the written materials they find in school that this causes an interference so great that the child is unable to learn to read?

2. Is the attitude of the teacher toward the child as he reads in his own dialect such that the teacher places interferences in the path of the child so great that the child is unable to learn to read?

Although the examination of the dialects of four readers cannot generate significant answers to the questions raised it can suggest hypotheses for research with larger groups of children. Relating this information to the conclusions being reached in other miscue studies may also generate trends regarding dialect interference in learning to read.

"A dialect...is a variety of a language. It differs from other varieties in certain features of pronunciation, vocabulary, and grammar.... It may reveal something about the social or regional background of its speakers and it will be generally understood by speakers of other dialects of the same language." (Shuy, 1967, p. 4.)

The dialect miscues coded in this study generally conform to the variables described by Wolfram in his description of Detroit Negro speech (Wolfram, 1969, pp. 49-54).

The variables described by Wolfram are categorized somewhat differently than the Goodman Taxonomy. Wolfram explains the reason for different categorizations of dialect variables in different research projects when he states, "Although phonological and grammatical variables are discussed separately, it must be noted that several of the variables show considerable intersection between grammar and phonology." The Goodman Taxonomy handles this intersection by coding a single miscue on any and all levels possible. For example, if the child said /kɔd/ for called this would be an omission on the submorphenic level, no dialect involvement on the bound morphemic level or word level. /Kɔ/ for called, however, would not be marked on the submorphemic level since two phonemes have been omitted but would be substitution on the bound morphemic level and a dialect variation on the word level.

The submorphemic miscues noted in the first and second year study on these children were similar to the ones in this study. There was just one new type of difference noted in this study which was not evident in the first study. Both the average readers said /štr/ for /str/ inconsistently for words like string, strong, and street.

The discussions of dialect variables will use categories from the Goodman Taxonomy. This presentation includes all dialect data marked on the worksheet. Although phonological dialect variations and the exact same miscue repeated in the same story are not part of the statistics information in other categories, they have been combined for the purpose of the analysis of dialect.

Phonological Variations. Miscues coded under phonological variations include the following:

1. Word final clusters variations that do not change tense or number i.e., /tɛs/ for *test*; /lɛf/ for *left*; /kow/ for *cold*; /fayn/ for *find* and /iys/ for *east*.

2. Initial and medial and final θ variations i.e., /bIrfdey/ for *birthday* and /suviŋ/ for *soothing*, /dæt/ for *that* and /də/ for *the*.

3. Syllable final *d* or medial *d* variations excluding related bound morpheme variations i.e., /gowl/ or /gowlt/ for *gold* or /gUtman/ for *Goodman*.

4. Post-vocalic *r* and *l* variations which generally result in the absence of /r/ and /l/ i.e., /həntə/ for *hunter* and /kɔwd/ for *called*.

5. Medial vowel variations which often result in an absence of distinction between certain vowels i.e., /gIt/ for *get*, /stiəl/ for *still*, /ǰIst/ or /ǰɛst/ for *just*.

6. /Š tr/ for /str/ is a variation not reported by Wolfram in the Detroit study, however Labov states "Initial consonant clusters which involve /r/ show considerable variation: /str/ is often heard as /skr/; /sr/ as sw, sr, or so (Labov, 1969, p. 46)." In this study examples of this variation include /Štriyt/ for *street* and /strɔŋ/ for *strong*.

7. /S/ and /z/ variations i.e., /mIZIZ/ for *Mrs*. and /mIZ/ for Miss.

8. /æks/ and /s/ variations i.e., /æks/ and /æst/ for ask; /ɛsplowd/ for explode.

9. Variations related to contractions of the negative i.e., /dInt/ and /dIˀInt/ for didn't, /kUˀənt/ for couldn't and /wUnt/ for wouldn't.

10. Miscellaneous phonological variations i.e., /pUŋkin/ for pumpkin, and /pIčər/ for picture and /powlis/ for police, /ant/ for aunt.

All subjects were inconsistent in their use of phonological variations from session to session. There was also inconsistency of use of phonological dialect in reading from subject to subject as shown in Figure 6. Not only was there inconsistency in the use of phonological variations from session to session but from story to story as well. Frank read two stories twice. In session 2 his reading of A New Doll a second time showed an increase of phonological variations going from none to 1.4 phonological dialect miscues per hundred words. In session 15 however, when he reread A Lot to Tell he produced fewer phonological dialect variation miscues per hundred words (.4) than he did during its first reading in session 13 (3.8). Faust, who reread My Brother Is A Genius in session 15 made more phonological dialect variation miscues per hundred words than during its first reading in session 11, going from .6 in session 15 to 1.3 in session 11 phonological dialect miscues per hundred words.

Altha and Frank read the same stories in sessions 9 through 14. In all cases except in session 9 Frank produced more phonological dialect variations than Altha. Faust and Tony both read Freddie Miller, Scientist, Billy Whitemoon, History of a Hot Dog and My Brother Is A Genius although not all at the same sessions. In all cases Faust had greater phonological variations than Tony.

Frank and Faust both used phonological dialect features in reading which were seldom part of the miscues of the three other subjects. Frank used the /v/ for /θ/ the most and Faust used it only once. The other two subjects never used that phonological variation in reading. Faust was very prone to the l-less variation in words like /hədowd/ and /sɛdowbæg/.

Figure 6.--Phonological Variation Miscues Per Hundred Words

Sessions	Subjects			
	Faust	Tony	Altha	Frank
1	.9	.2	0**	0**
2	.9+	.7	0	1.4**
3	.6*	.2	0	1.0
4	1.3	.9	0	2.0
5	2.4	.3	1.5	3.8++
6	NA	.1	0	1.5
7	1.7	.1+	NA	.4++
8	1.3*	.1*	NA	3.1
Total	1.2	.3	.4	1.9

KEY

Both subjects read the same story, the same session.
+ Freddie Miller, Scientist read by both subjects.
* My Brother Is A Genius read by both subjects.
** New Doll read by both subjects.
++ A Lot to Tell read by both subjects.

The l-less variation appeared in the reading miscues of all subjects except Altha but never to the extent that it did in Faust's reading. From a subjective analysis of their oral language Faust and Frank seem to have more variation in their oral language than either Altha or Tony. This conclusion of the researchers was verified on a subjective basis by three of the subject's teachers. The greater use of phonological variation in the reading of Faust and Frank seem then to reflect their greater use of phonological variation in oral language. Since Faust is an average reader and considered a proficient reader by his teachers and Frank is a slow reader and not considered a proficient reader by his teachers the use of phonological dialect variations in oral reading does not seem to be a factor in reading success or failure.

The phonological dialect MPHW were inconsistent by all subjects and all subjects produced the expected form to a much greater extent than the dialect variation.

Inconsistency in use of dialect variation was true of grammatical dialect variations as well and supported Wolfram's conclusions that there was "considerable variation based on the differentiation of interview and reading style, the latter style consistently showing a closer approximation to the standard English norm (Wolfram, 1969, p. 216)."

Grammatical Variations.

1. Word final clusters and syllable final *d* variations when a bound morpheme is involved like /dəpɛnd/ for *depended*, /æd/ for added, /yɛl/ for *yelled* and /reyz/ for *raised*.

2. Suffixal-z variations like /mɔðɛr/ for *mother's* (possessive), /hæt/ for *hats* (plural), and /rən/ for *runs* (third person singular present tense).

3. Possessive *they* for *their*.

4. Variations in terms of "be" form verbs i.e., *was* for *were* and *be* for *been*.

5. Multiple negation.

Figure 7 shows grammatical variations per hundred words.

Figure 7.--Grammatical Variation Miscues Per Hundred Words

Sessions	Subjects			
	Faust	Tony	Altha	Frank
1	.4	.8	0**	.4**
2	.1+	.7	0	.4**
3	.1+	.4	.7	2.4
4	.7	.6	0	0
5	.7	1.7	1.7	1.0++
6	NA	.1	1.2	.5
7	.8	.5+	NA	.6++
8	.5*	.3*	NA	2.8
Total	.5	.5	.8	1.2

KEY

Both subjects read the same story, the same session.
+ Freddie Miller, Scientist read by both subjects.
* My Brother Is A Genius read by both subjects.
** New Doll read by both subjects.
++ A Lot To Tell read by both subjects.

Figure 8 shows the range of variation for both phonological and grammatical dialect miscues per hundred words. It is important to note that although Faust has the second highest percentage of phonological variation miscues per hundred words he has the smallest percentage of grammatical variation miscues per hundred words.

Figure 8.--Range of Phonological and Grammatical Dialect Miscues Per Hundred Words

	Faust	Tony	Altha	Frank
		Range		
Grammatical	.1-.8	.1-1.7	0-1.7	0-2.8
Phonological	.6-2.4	.1-.9	0-1.5	0-3.8
		Amount of Range		
Grammatical	.7	1.6	1.7	2.8
Phonological	1.8	.7	1.5	3.8

When Labov (1969, p. 30) asked ten sixteen year olds in Harlem to correct classroom English sentences, they seldom noticed the double negative or the absence of the grammatical signals s or ed. "There can be little doubt that their ignorance of these few fundamental points of English inflection is connected with the fact that most of them have difficulty in reading sentences at the second grade level."

There is no evidence in the examination of bound morpheme dialect miscues to support Labov's assumption. Subjects were inconsistent in their use of all bound morpheme variations which indicates that they made adequate use of the information. Their retellings of the stories gave no suggestion that they were unaware of the time of the story.

Both Faust and Frank substituted was for were in a few instances. At only three other instances did grammatical dialect variations occur which involved anything other than bound morphemes.

Faust, in one story, produced the following sentence: "...hanging up the telephones into which he be talking." for the text sentence: ...*hanging up the two telephones into which he'd been talking*. Faust regressed and attempted a correction resulting in "he been talking." This may suggest that a confusion may occur when the text sentence is a complex one for children to read. It should be noted that this sentence puzzles almost all readers in some way since almost every subject that has ever read this sentence in any of the miscue studies has produced a miscue somewhere in it.

Frank produced miscues related to the *they* for *there* variation. The text sentences cueing the miscues were: *There is a mother here now.* and *There is going to be a big show*. For the former Frank said "where" for *there*, then "they" for *there* and finally settled for "they is a mother here now." On the latter Frank followed similar behavior saying "where is" and regressing, settling for "They is going to be a big show."

Frank also produced the one multiple negation miscue when his observed response was: "They called, "No, she never!" for the text sentence *They could not see each other*.

All the sentence examples produced by Faust and Frank are complicated by factors other than simple dialect considerations. In the multiple negation example Frank is at a stage where producing a meaningful sentence may be overriding other considerations so he relies on minimal graphic cues. The *they* for *their* or *there* or *there're* problem is one which linguists are still debating. "The question is how much, if any, grammatical conditioning is allowed on phonological patterns. This question can hardly be answered within the scope of this the study, if in fact, it is answerable at all (Wolfram, 1969)."

Regardless of how the issues are resolved there are evidences that infrequently subjects can be confused by some of the grammatical variables. Frank's multiple attempts on the *there is* sequence suggest that he was trying to work out this problem, somewhat aware of it and probably confused. Tony also produced an overt response that gave some insight into this. In session 10 Tony approached the text sentence There's going to be a big contest. in the following manner. He read: "There...There going...There's going to be a... There goin'to be a...There's going to be a big contest." He followed this multiple attempt on the sentence with the side remark of "I hate 'postrophe s's." He couldn't explain why when he was asked but obviously there was a confusion. I would tend to conclude that any confusion the subjects experience in their reading is caused more by teacher's attempting to teach children rules which are contrary to their own rules of dialect than the actual interference of the child's dialect in his own reading. It must be remembered in all this discussion of dialect that in at least 85% of all the miscues for any of the subjects (and all their accurate reading) there was no dialect involvement.

Comparing the information regarding dialect for this study with the previous study in Figure 9 supports conclusions from this study concerning dialect.

Figure 9.--Comparing Dialect Miscues of First and Second Year Study With Second and Third Year Study

	Faust	Tony	Altha	Frank
First - Second Grade Study	.9	.4	.1	.7
Second - Third Grade Study	1.7	.8	1.3	3.1

In both studies Frank and Faust had more dialect MPHW than Tony and Altha. For all the subjects dialect MPHW increased from study to study although there was no developmental pattern to the increase within each period.

There are two more important considerations in terms of dialect--acceptability and correction. When a subject made a dialect miscue, it in itself did not affect the semantic or syntactic acceptability of the sentence since the subject applied the alternate surface structure rules and produced an acceptable sentence in his dialect which parallelled the acceptability of the author's surface sentence. The other feature which supported this was that except for Tony seldom did any of the subjects correct dialect miscues. When miscues were produced which resulted in unacceptable or partially acceptable sentences subjects tended to correct them. Since these subjects seldom corrected dialect miscues as shown in Figure 10, this would suggest that they considered these sentences to be acceptable.

Figure 10.--Percent of Uncorrected and Corrected Dialect Miscues

	Faust	Tony	Altha	Frank
Not Corrected	96%	70%	100%	90%
Corrected	4%	30%	0%	10%

Tony's unusually high percent of correction of dialect miscues may have resulted from instruction. In only three stories were his correction of dialect miscues unusually higher than the other subjects. He corrected 100% of his grammatically involved dialect miscues in session 9, 57% in session 15 and 28% in session 16. He may have been getting instruction at home or in the classroom encouraging overarticulation of final /s/, /d/ or /t/ in terms of bound morphemes. In his reading he often would produce a released sound at the ends of words like cold or going. He may have been trying to conform to the instruction for certain sessions but obviously the instruction did not have a lasting affect since he did not consistently correct dialect all the sessions.

All the subjects produced miscues in their reading which are categorized as super correct since they applied rules imposed on the reader from an instructional situation rather than from the reader's own oral language. Figure 11 shows total number of super correct miscues per hundred words.

Figure 11.--Super Correct Miscues Per Hundred Words

Session	Subject			
	Faust	Tony	Altha	Frank
1	.6	3.2	2.3	0
2	.4	2.2	.9	0
3	1.2	.4	3.5	3.9
4	1.1	.6	16.2	17.0
5	.7	0	2.3	3.2
6	NA	0	1.8	1.8
7	.5	0	NA	2.3
8	.2	.1	NA	4.6
Total	1.7	.3	4.6	3.3

Super correct miscues include:

1. Substitution of /ey/ for /ə/ i.e., /eywey/ for away, /eybawt/ for about and /ey/ for a.

2. Substitution of /t/ or /t+t/ for /d/ in medial positions i.e. /frɛtiy/ for Freddie, /sIt+tiy/ for city, /kit+tɛn/ for kitten.

3. Overarticulation of final /d/ or /t/ or an added /d/ on the standard English past tense form i.e., /diylayt+ɛd+ɛd/ for delighted, /staptɛd/ for stopped, /snowdɛd/ for snowed, /wɛrkdɛd/ for worked.

4. Syllabifications of graphic words i.e., /stətiyIŋ/ for studying, /hæŋ+gIŋ/ for hanging.

Super correct forms indicate that readers tried to do as they were instructed. Both Faust and Tony's super correct miscues per hundred words tended to decrease from session 9 to session 16. Altha and Frank vacillated in their use. Figure 12 shows a comparison between dialect miscues and super correct forms.

Figure 12.--Comparison of Super Correct and Dialect Miscues Per Hundred Words

Subject	Faust	Tony	Altha	Frank
Super-Correct	1.7	.3	4.6	3.3
Dialect	1.7	.8	1.3	3.1

The instructional procedures of trying to get these youngsters to pronounce certain features of the language that the teachers believe needs attention produced almost as many variations in the subjects' reading as their own dialect variations produced.

The evidence that Faust and Tony, the average readers, have diminished in their use of super correct forms but that a small percent of dialect variation remained constant suggests the importance of one over the other. The evidence that Altha and Frank had much more super correct forms than dialect variations may suggest that the use of super correct forms in order to follow the teacher's instructions may be interfering in their becoming proficient readers.

Summary, Discussion, and Implications. These children reflected in their oral reading evidence of their dialect. Only the slow readers ever read stories with no dialect miscues, in early stages in this study. In examining data from the first and second year study, all subjects had some sessions with no dialect miscues but this became a non-existent pattern. This suggests that the reflection of dialect miscues may indeed be a strength and indicate that the child at least at this stage of development may be aware that reading should sound like language. Since the average and slow readers both used dialect, it seems this in itself does not interfer in learning to read.

Dialect miscues are a small percent of readers' miscues. Phonological variations and grammatical variations which involve bound morphemes represent most of the dialect miscues.

Super correct forms seem to disappear in the average readers but since it remains in the reading of the slower readers it may be confusing to some youngsters. When a child reads /pIkt+hɛd/ for *picked* the teacher cannot even be sure that the child recognizes the word as it would be in his own dialect. The following implications are suggested:

1. Teachers should permit children to read in their own language and not correct dialect forms.

2. Teachers should not teach rules about phonology or grammar to any non-standard speakers without being aware how it affects the rules of the particular dialect.

3. Teachers should avoid intentionally or unintentionally teaching rules which cause variations which are not in anyone's dialect.

4. When a teacher insists on certain phonological or grammatical variations for children she may be inadvertantly making learning to read hard.

5. There is no evidence that the use of dialect in oral reading interferes in learning to read.

Fasold's statement on dialect is very relevant to this discussion.

"The problem for the Black English speaking child is that the corrections he receives are *not* consistent. When he reads *basically* as /beysikliy/ his reading is acceptable, reinforcing the correct principle of reading. But when he is told that /tɛst/ rather than /tɛs/ is the correct way to read *test*, the spurious principle of oral reading is reinforced. Not being a speaker of Standard English, he has no way of knowing why some words are to be read according to one principle and others according to another. As a result, the child is likely to conclude that there is actually no principle at all....

This difficulty can be overcome by training teachers in Black English pronunciations so that they will consistently accept words that are correctly read according to the rules of Black English phonology (Fasold, 1969, p. 88)."

III

LEVEL OF LANGUAGE AND MISCUE TYPE

A miscue can involve various units or levels of language. In the Goodman Taxonomy there is no attempt to select a single level of language which is affected by the miscue. The miscue might produce a change in any one or all five levels of language analyzed by the taxonomy. The five levels include phrase, word or free morpheme, bound morpheme and submorphemic levels. One miscue could occur at all or any of the levels. Example:

Text: The new doll looked around.

Subject: The now doll looked around.

The subject said "the now doll" for the new doll. This phenomena is a substitution on the submorphemic level,/ow/ substituted for /u/,and the word level.

Text: The old toys looked at the new doll.

Subject: The toys looked at the new doll.

The omission of the graphic item old is coded as an omission of a word and a substitution of a phrase the toys for the old toys. It is also coded as an omission on the clause level since old is the omission of a deep structure adjectival clause.

lit-tle
Example: ...little Monkey said.

The subject said what sounded like "lit-tle" for little. It was coded as an insertion on the submorphemic level.

Clause

Clause level miscues include substitutions, insertions, omissions or reversals of surface structure or deep structure clauses. It also includes any miscues which alter clause dependency either within or across surface structure sentences.

Phrase

Any time a miscue causes a substitution, insertion, omission or reversal within a phrase unless there is a single word which does not change grammatical function a phrase level miscue is involved.

For any subject at least 28% of the miscues caused some change at the phrase level. For all subjects, the type of miscue which had the largest percent on the phrase level was the substitution occurring at least five times more than the omission of phrases which was the next largest percent of phrase level miscue. Insertions occurred next in order of percent and reversals were the lowest percent for all miscues in the phrase level. Clause level miscues were involved at least ten percent for any subject. For the slow readers insertion of clauses were the largest percent of clause type miscues occurring 7% and 3% of all miscue types. The average readers' omissions of clauses were their largest percent of clause miscue types occurring 4% and 2% of all miscues. There was no definite pattern of whether substitutions, insertions or omissions represented the second or third place in percent of miscues involved on the clause level. Two sub-categories of clause type miscues although small for all subjects did seem to suggest some developmental trends. One sub-category dealt with clause dependency altered within the sentence and the other with clause dependency altered across sentences.

Example of dependency altered within the sentence:

Text: Well, Peggy, sounds like the...

Subject: Well, Peggy sounds like the...

Example of clause dependency altered across sentences.

Text: ...when he's at his best." "Nonsense, my boy,..."

Subject: ...when he's at his best nonsense. My boy,...

Figure 13.--Percent of Clause Dependency Miscues

Type	Altered Within Sentence	Altered Across Sentence	Altered Within Sentence	Altered Across Sentence
Session	Faust		Tony	
1	0	0	0	0
2	0	0	0	0
3	0	7.6	0	5.4
4	0	3.8	0	0
5	0	7.7	0	0
6			0	0
7	.8	6.7	0	.8
8	3.4	1.9	0	1.2
Total	1.5	4.2	0	1.2
	Altha		Frank	
1	0	0		3.4
2	0	0	0	0
3	3.1	0	0	0
4	0	0	0	0
5	1.8	3.6	0	0
6	1.7	1.7	0	0
7			0	0
8			1.2	0
Total	1.5	1.5	.3	.3

Figure 13 shows the increasing tendency of miscues which involve complex clause structural changes from session to session. This would suggest the processing of larger units of information as these children mature. It also reflects the greater complexity of the material these more proficient readers used.

Word and Free Morpheme

Whenever the miscue involved an independent oral meaning bearing unit or a graphic representation of a free morpheme or free and combined morpheme, this category was coded indicating whether the miscue was a single morpheme for a single morpheme, a multiple for a multiple morpheme or some other combination categorized in the Goodman Taxonomy.

Figure 14.--Percent of Types of Miscues on the Word or Free Morpheme Level

	0	Sub.	Ins.	Omission	Reversal
Frank	2.8	74.2	3.3	19.2	0.6
Altha	13.7	68.4	.5	17.5	0
Tony	5.5	71.7	6.8	16.0	0
Faust	12.4	69.1	5.4	13.2	0

Figure 14 shows the percent of miscues coded on the word and free morpheme level according to whether it had been omitted, inserted, substituted or reversed. According to the statistical information substitutions constituted the largest percent of miscue types these readers made in reading. This substantiated the material in the earlier study. These readers made at least three times more substitution miscues than omissions which was the second highest percent of miscue types made. In the first and second year study all the subjects made very similar percentage of omission miscues. In this study the omissions were somewhat less for the average readers.

As seen in Figure 15 the reversal miscues on the word level represented the smallest percent of miscue types. This substantiated the information found in the first and second year study. Combining all reversals at any level of language still produced a small percent of miscues.

Figure 15.--Percent of Reversal Miscues on Various Language Levels

	Faust	Tony	Altha	Frank
Sub-Morphemic	.7	0	0	.6
Bound-Morpheme	0	0	.5	0
Word	0	0	0	.6
Phrase	.7	.5	1.5	.6

This discussion has been separated from other types of miscues because many diagnostic programs view reversals as a problem in reading and many programs have been developed to overcome a "so-called" problem. When these subjects read within a language context and were not given artificial language to read out of context, they did not produce very many reversal miscues. For most of the subjects the reversal miscues were on the phrase level. These phrase level reversals were usually movements of dialogue carriers from one clause to another or from one position to another within the clause. Example:

Text: "I want to go," Ted said.
Father did....

Subject: "I want to go." Ted said,
"Father did...

In a miscue study recently completed on five perceptually handicapped children, Gutknecht concluded "Learning disabled readers are generally characterized as making persistent reversals of words or letters in reading. Of the total miscues analyzed in this study only three involved reversals (Gutknecht, 1971, p. 45)."

Bound and Combined Morpheme

This category is marked indicating the kind of bound morphemic involvement including inflectional, derivational, contractional, noninflectional forms as well as the type of miscue, i.e.; substitution, omission, insertion and reversal.

Submorpheme

All miscues involving a single phoneme or a two phoneme sequence in a larger morpheme are coded in this category indicating whether the phonemes have been substituted, omited, inserted or reversed.

No significant pattern emerged for either the bound and combined morpheme or submorpheme categories except that miscues occurred at both these levels.

Summary Discussion and Implications. The statistical data on what happens (insertion, omissions, substitutions and reversals) to the various levels of language (submorphemic, bound-morphemic, word, phrase and clause) does not yield significant developmental data. In fact, simply counting certain types of miscues can be misleading. It is not important to know how many substitution miscues there are but what kind of substitutions. Are they synonyms or do they make sense in the sentence or story is of much greater importance. These types of qualitative differences will yield the significant data for this study. Simply quantifying such data can lead a diagnostic analysis of a child's reading astray. Such misconceptions have allowed myths to develop like the five errors per hundred words used in so many informal inventories and the concern over reversal type miscues. These did not seem very significant for these subjects. What is significant is how the miscue affects the linguistic unit within which the miscue is involved and how it affects the meaning of the language being read.

IV

CUE SYSTEMS IN LANGUAGE

Reading is a language process. It therefore must deal with the systems that are part of any language process. This study has gathered data on how four selected readers deal with the intonational, phonemic, graphemic, semantic and syntactic aspects of language. Miscues related to all of these aspects, how they interrelate and to what extent the readers use them is the focus of this chapter.

Intonation

Intonation indicates the extent to which a reader changes the stress, pitch or juncture of what is expected especially if it causes a change within the grammatical structure (syntax) or the meaning (semantics) of what is being read.

Examples of intonation miscues:

1. Intonation miscue within words.

   Text: Sausages were eaten 3,500 years ago by the Babylonians.

   Subject: "baby lions" for Babylonians.

2. Intonation miscue within one phrase structure.

   Text: ...especially at carnivals, circuses, theatres and fairs.

   Subject: "circus theatres" for circuses, theatres.

3. Intonation miscue involves the end of the phrase and and the sentence.

   Text: There is a mother, here now looking for her boy," said the man.

   Subject: "There is a mother here now. Look for her boy," said the man.

4. Intonation miscue involves direct quotes.

Text: Ted's father called. "Let...

Subject: "Ted" father called. "Let...

For all subjects intonation miscues did not occur frequently as shown in Figure 15. However, close examination of subcategories at particular sessions were revealing.

Figure 16.--Percent of Intonation Miscues

Type of Intonation Miscue	Not Involved	Within Words	End of Phrase	Direct Quotes	Others
Faust	88	3.4	5.4	.9	3.2
Tony	95	.5	1.5	1.7	4.4
Altha	90	0	6.7	2.6	.5
Frank	90	.9	4.5	2.7	1.5

Faust's percent of intonation miscues within words was a reflection of the material he read. Faust had no intonation involvement in the within word category in sessions 1, 2, and 4. In sessions 5 and 6, 5% and 10% of his miscues involved intonation changes within words. However, in session 3 when he read My Brother Is A Genius, a sixth grade story, while he was in grade two and in session 8 when he read Sheep Dog, an eighth grade story, when he was in grade three, his within word miscues were 21% and 63% respectively.

In My Brother Is A Genius, the miscues were a reflection of his attempt at sounding out unfamiliar words and placing primary stress on the wrong syllable like "hor-ee'-zontal" for horizontal, "in-tell'-ec-tual" for intellectual, etc. However in Sheep Dog Faust was faced with reading a two column format on one page for the first time.

Occasionally in such a format the line ends with a hyphenated word. Of the 29 hyphenated words Faust produced some unexpected observed responses in 13. Most of them caused miscues while others were partial attempts at sounding out the word with an immediate correction which were not coded as miscues. This phenomenon was observed when the text word was to-ward with to at the end of the line and ward at the beginning of the next and the subject said "to award". Other examples included Faust's oral response of "in dedicated" for in-dicated and "to work" for to-ward.

Altha's and Frank's reaction to a new style of reading material was suggested by their larger percent of intonation miscues which involved either direct quotes or terminal punctuation at the end of a phrase or clause than of Tony or Faust's miscues.

Direct quotes are a problem if the context does not clearly indicate who is talking to provide the reader with contextual cues as well as graphic cues. Occasionally, the subject attached the dialogue carrier to either the previous or subsequent sentence in some cases without destroying syntax although there might be a change of meaning.

Text: "Yes, Sue," said the man.
"He did have it."

Altha: "Yes," Sue said, "the man, he did have it.

Intonation miscues involving terminal punctuation appeared for Frank in session 4 and for Altha in session 3. As the subjects moved from pre-primers and primers into first grade readers which had written material which did not end sentences at the end of a line, the subjects often inserted terminal punctuation anyway, especially if it fit syntactically. This often produced a dangling phrase.

Text: We do not have another penny for the fair.

Frank: We do not have another penny. For the fair...

Summary, Discussion and Implications. These children bring their knowledge of the intonation they use in oral language to reading and use it proficiently at least 88% of the time for any of the subjects. Intonation miscues often seem to be cued by the introduction of punctuation conventions into the reading material with which the subjects have not had prior experience.

This has implications for research since it would be helpful to know if there is any need to postpone the use of certain punctuation conventions. It might be, however, if readers have a variety of punctuation conventions available to them in early reading material, they wouldn't be conditioned to only one format. It would also be helpful to textbook writers to know if it would be better to break a phrase in the middle, such as:

The old toys/looked at the new doll.

so that the reader is forced by his knowledge of language to continue to the next line.

The phrase could be broken after at and again force the reader to look at the next line for the completion of the clause. However, if the sentence is broken after looked it cues the end of a clause and permits the reader to insert terminal punctuation.

Even though research can help decide some of the previously stated issues for initial reading material, the teacher and teacher's manuals must also assume responsibility for providing readers with different types of punctuation conventions within actual reading texts so they can learn to relate the punctuation to their own knowledge of intonation which they use proficiently.

Graphic and Phonemic Proximity

The Goodman Taxonomy of Reading Miscues examines each substitution of a single word observed response miscue for a single word expected response on the basis of both graphic and phonemic proximity. Through this analysis, data is gathered concerning how readers process the graphic (the shape and letters of the word) cues, as well as the phonemic (the sounds of the word) cues available to them. The substitutions are scored on a ten point scale of increasing similarity with 0 equal to no similarity and 9 equal to homographs or homophones. These categories are not coded for omissions or substitutions of words. They are also left blank if only intonation is involved in the miscue or if a miscue is longer than a graphic word and it is not possible

Figure 17.--Graphic and Phonemic Similarity Mean Scores

	Faust		Tony		Altha		Frank	
Session	Graphic	Phonemic	Graphic	Phonemic	Graphic	Phonemic	Graphic	Phonemic
1	5.3	5.0	6.3	5.8	3.8	4.7	4.2	3.9
2	5.9	5.3	7.1	6.5	6.0	6.0	5.0	3.5
3	6.3	5.7	6.2	6.5	4.2	3.0	4.3	3.7
4	6.2	5.3	6.6	5.7	5.5	4.3	3.6	3.7
5	6.2	5.4	7.1	6.2	4.4	3.1	5.1	5.0
6	NA	NA	5.1	5.3	4.9	4.6	5.0	4.9
7	6.0	5.2	5.4	4.5	NA	NA	5.5	5.6
8	5.7	5.4	5.6	4.8	NA	NA	5.6	4.9
Total	5.9	5.4	6.1	5.5	4.6	3.9	5.0	4.7

to judge which word in the expected response relates to the specific word in the text. An example of the latter is:

Text: You do not have to stay home.

Subject: You may go and have fun.

The mean for each category on the 0-9 scale for each subject for each session is shown in Figure 17.

For all subjects totally and in almost every session, the graphic similarity mean was higher than the mean for phonemic similarity. This is true in all miscue studies. In this study the average readers' means were almost one point higher than the slow reader's means in both the graphic and phonemic categories. There was development growth toward the higher categories for the slow readers.

In order to show developmental data more easily certain of the nine sub-categories in the graphic and phonemic categories were grouped. The zero sub-category indicating no similarity between the observed response and the expected response was left separate from the others. (See Figure 18.) The first three sub-categories which code the same letters or sounds in common or the same ending were combined for the second column labeled Letter/Sounds In Common. The third column was the combination of the three middle sub-categories which included all the substitution miscues with common beginnings, beginning and middle portions or beginning and end or middle and end portions and was labeled Beginning Common. The last column included all miscues with the closest proximity to the expected response and was labeled Beginning, Middle, End Common.

Figure 18 shows the total percent for each of these combined categories for phonemic and graphic similarity for each subject. Subjects all had higher percent of similarity for graphic similarity than phonemic similarity.

It should be noted that all subjects tended to make a similar amount of miscues with no similarity and letters and sounds in common. The difference between the slow and average readers was that for the slow readers the largest percent of miscues used phonemic and graphic cues related to initial

Figure 18.--Percent of Graphic and Phonemic Similarity

Subject	Faust		Tony		Altha		Frank	
Sub-categories	Gr.*	Ph.**	Gr.	Ph.	Gr.	Ph.	Gr.	Ph.
No Similarity	9%	16%	8%	16%	10%	26%	9%	16%
Letters/Sounds in Common	10%	8%	9%	7%	9%	3%	18%	15%
Beginning Common	26%	27%	25%	29%	56%	51%	39%	35%
Beginning, Middle End, Common	54%	49%	58%	48%	25%	21%	34%	35%

* Gr.-Graphic
**Ph.-Phonemic

and middle portions of the words while the average readers made greater use of closer phonemic and graphic proximity. There was a developmental trend among the slow readers toward making greater use of closer proximity.

Frank and Altha's data on graphic similarity are shown in Figures 19 and 20. By examining the third column of these graphs it is evident that the average percent of miscues with initial and medial similarity was 39% for Frank and 56% for Altha. In sessions 1 - 4 all Frank's percent of miscues in this column were below the average while in sessions 5 - 6 they were close to average and in sessions 7 - 8 above the average, indicating Frank's continuous development in his use of graphic cues. In the last column there were two sessions of the first four with percents below the average and the other two were close to average while during the last four sessions only one was just slightly below the average. Altha's pattern was similar although not as consistent. For Tony and Faust the percentages were much more eratic from session to session indicating that other variables were operating in addition to developmental growth in use of phonemic and graphic cues. The use of phonemic and graphic cues may have stabilized for the average readers and their developmental pattern in relationship to phonemic and graphic cues probably took place during the first and

Figure 19.--Percent of Graphic Similarity for Various Subcategories for Each Session for Frank

```
                    GRAPHIC
              COUNT I
            ROW PCT INO SIMIL LETTERS   BEGINNIN BEGIN &    ROW
            COL PCT IARITY    COMMON    G        MID &END   TOTAL
                    I         I         I        I        I
SESSION     --------I---------I---------I--------I--------I
                    I      1  I     10  I     4  I     5  I    20
                  1 I    5.0  I   50.0  I  20.0  I  25.0  I   7.2
                    I    3.8  I   20.4  I   3.7  I   5.3  I
                   -I---------I---------I--------I--------I
                    I      1  I      1  I     3  I     3  I     8
                  2 I   12.5  I   12.5  I  37.5  I  37.5  I   2.9
                    I    3.8  I    2.0  I   2.8  I   3.2  I
                   -I---------I---------I--------I--------I
                    I      5  I     12  I     8  I    13  I    38
                  3 I   13.2  I   31.6  I  21.1  I  34.2  I  13.7
                    I   19.2  I   24.5  I   7.3  I  13.8  I
                   -I---------I---------I--------I--------I
                    I      3  I      2  I     3  I     2  I    10
                  4 I   30.0  I   20.0  I  30.0  I  20.0  I   3.6
                    I   11.5  I    4.1  I   2.8  I   2.1  I
                   -I---------I---------I--------I--------I
                    I      4  I      8  I    18  I    18  I    48
                  5 I    8.3  I   16.7  I  37.5  I  37.5  I  17.3
                    I   15.4  I   16.3  I  16.5  I  19.1  I
                   -I---------I---------I--------I--------I
                    I      6  I      8  I    20  I    19  I    53
                  6 I   11.3  I   15.1  I  37.7  I  35.8  I  19.1
                    I   23.1  I   16.3  I  18.3  I  20.2  I
                   -I---------I---------I--------I--------I
                    I      3  I      2  I    13  I    13  I    31
                  7 I    9.7  I    6.5  I  41.9  I  41.9  I  11.2
                    I   11.5  I    4.1  I  11.9  I  13.8  I
                   -I---------I---------I--------I--------I
                    I      3  I      6  I    40  I    21  I    70
                  8 I    4.3  I    8.6  I  57.1  I  30.0  I  25.2
                    I   11.5  I   12.2  I  36.7  I  22.3  I
                   -I---------I---------I--------I--------I
             COLUMN       26        49       109       94      278
             TOTAL       9.4      17.6      39.2     33.8    100.0
```

Figure 20.--Percent of Graphic Similarity for Various Subcategories for Each Session for Altha

```
             GRAPHIC
 COUNT     I
 ROW PCT   INO SIMIL LETTERS   BEGINNIN BEGIN &     ROW
 COL PCT   IARITY     COMMON    G        MID &END   TOTAL
           I         I         I         I         I
 ----------I---------I---------I---------I---------I
           I     1   I     1   I     3   I     1   I     6
      1    I  16.7   I  16.7   I  50.0   I  16.7   I   4.2
           I   6.7   I   8.3   I   3.7   I   2.9   I
          -I---------I---------I---------I---------I
           I     0   I     1   I     2   I     4   I     7
      2    I   0.0   I  14.3   I  28.6   I  57.1   I   4.9
           I   0.0   I   8.3   I   2.5   I  11.4   I
          -I---------I---------I---------I---------I
           I     3   I     4   I    18   I     3   I    28
      3    I  10.7   I  14.3   I  64.3   I  10.7   I  19.7
           I  20.0   I  33.3   I  22.5   I   8.6   I
          -I---------I---------I---------I---------I
           I     1   I     1   I     4   I     5   I    11
      4    I   9.1   I   9.1   I  36.4   I  45.5   I   7.7
           I   6.7   I   8.3   I   5.0   I  14.3   I
          -I---------I---------I---------I---------I
           I     6   I     3   I    22   I    10   I    41
      5    I  14.6   I   7.3   I  53.7   I  24.4   I  28.9
           I  40.0   I  25.0   I  27.5   I  28.6   I
          -I---------I---------I---------I---------I
           I     4   I     2   I    31   I    12   I    49
      6    I   8.2   I   4.1   I  63.3   I  24.5   I  34.5
           I  26.7   I  16.7   I  38.7   I  34.3   I
          -I---------I---------I---------I---------I
 COLUMN         15        12        80        35       142
 TOTAL        10.6       8.5      56.3      24.6     100.0
```

second year study. During the first and second year study, the average percent of miscues which differed by a single grapheme for Faust and Tony were 27% and 20% respectively. In Faust the percents for his last three sessions of that earlier study were 57%, 49% and 52% while for Tony they were 27%, 36% and 39%. All the last sessions for the average readers were above the average percent of phonemic and graphic similarity which was not true of the slow readers (Y. Goodman, 1967, p.139). At that time the average readers showed growth in developing finer discrimination. This seemed to stabilize during this study and was on the increase for the slow readers.

The relationship of syntactic and semantic acceptability with graphic and phonemic similarity data is important to consider. For all subjects the trends indicated that when miscues had no graphic similarity they had a greater percent of semantic acceptability than the average for all miscues, while miscues with single graphic differences were less than average. In other words, miscues with no graphic similarity tend to be more semantically acceptable than miscues with close proximity. The same trend was true of graphic similarity and syntactic acceptability but was not as strong between the acceptability categories and phonemic similarity.

Summary Discussion and Implications. All subjects had enough visual discrimination that their miscues generally had some amount of similarity. Only 8 - 10% of the time did any of the subjects have no graphic similarity and for three subjects 16% of the time no phonemic similarity. For Altha this percent was 26%. Graphics acted as a stronger cue for these children in reading than phonemics.

This data is affected by the fact that the slow readers tended to omit words that they thought they did not know.

Although the average readers produced miscues with finer graphic and phonemic discrimination than the slow readers and the slow readers were moving in this direction this does not intimate that ultimately there would be total similarity for all the readers. In fact, the Goodman-Burke study of their highly proficient readers concludes that there was a peaking in terms of the percent of phonemic and graphic similarity and then a downward trend as "...proficient users...tend to moderate the use of these skills at points where grammatical structure becomes highly significant to them (Goodman and Burke, 1969, p. 25)." In Page's study (1970) readers confronted with successively more difficult material began reading with higher graphic and phonemic proximity as the going got harder. The data on the relation between syntactic and semantic acceptability and graphic similarity in this study supports their conclusions.

What is significant to a reader is not the use of graphic and phonemic cues all the time but the ability to judge when it is necessary to make use of these cues and when the use of semantic and syntactic cues needs to be considered more important. These might be termed "judgment" strategies. If instruction tends to concentrate on giving children only the rules (and sometimes less than accurate rules at that) to match letters and sounds and never helps them with judging when the rules should be applied and when they should not, the information may well interfere with learning to read. It may well be that the consistent use of rules, especially interferes with the type of student who is trying to do everything just as the teacher tells him to because he lacks the confidence to build the "judgment" strategies which proficient readers do bring to their reading. Proficient readers, somehow, seem to learn these strategies on their own since no reading program on the market at the present time has instruction in these types of strategies.

Semantic Word Relationship and Grammatical Function

Besides the phonemic and graphic similarity categories, two other categories make word level comparisons. Semantic word relationship examines the expected response text word to the observed response oral word to see if the two words have any meaning relationship regardless of the rest of the story context. Most of the words coded in this category were more syntactically related than semantically since they tended to be a variant form of the text word like happy for happily, broke for broken, or give for gave, or the substitution of one function word for another. For the most part, it can be concluded that when substitution words are compared with expected responses on the semantic word level, there tends to be little semantic relationship. When a semantic relationship does occur it generally resulted in a similar name substitution which were 2% of all of Frank's miscues coded in this category, 2% of Altha's, 3% of Tony's and 2% for Faust. Examples of these include "doll" for ball, "called" for shouted and "hand" for head.

Although the semantic word relationship did not show a large percent of similarity, the converse is true for grammatical function similarity. When the observed response was substituted for the expected response, the grammatical function of the two were compared and coded in the grammatical function of the grammatical function category. Frank and Tony produced 83% and 80% similarity of grammatical function respectively on all substitution miscues on the word level and Altha and Frank produced 61% and 54% similarity respectively. It was not possible to compare this figure to the first and second year study since the analysis in this particular category has become more complex since that time.

Summary, Discussion and Implications. Words are significant units in reading since they are graphic units the reader perceives. However when comparing word for word items there is much less semantic relationship between words as linguistic items than there is syntactic relationship. This suggests that although there are constraints syntactically in terms of which types of grammatical function can go in any particular slot, the semantic constraints are much weaker. Readers can produce semantically acceptable sentences even though on a word for word level there is little semantic relationship. Some examples may make this more clear.

Text: She made her own paints from the roots that Billy gathered...

Tony: She made her own plants from the roots that Billy gathered.

Text: We have to buy feed for our horse.

Altha: We have to buy rugs for the house.

In the examples the underlined words are the same grammatical function but there is no semantic relationship between the words although the sentences are semantically acceptable in the story context. The readers did not lose any of the intended meaning of the story from these miscues. The former example describes various aspects of the life of a certain tribe of Indians and the latter suggests that this particular family does not have enough money for Freddie to go to the fair. This general discussion supports the significance of the need for context in reading. These children gain meaning from the whole context and it all needs to be there to support the gaining of meaning. When miscues are semantically related, they suggest good reading strategy since the reader is obviously reading orally something which he has already processed in a meaningful way and he is not producing miscues randomly. Synonym substitutions, substitutions with common attributes, similar name substitutions and other semantically related substitutions in reading should be an indication that the reader is reading for meaning at least at that point in the text.

Transformations

The transformation category analyzes the extent to which readers transform the language of the text when they read. The transformation category has five sub-categories.

1. A transformation involves a difference in deep structure between the E. R. and the O. R.

   Text: He saw the spring flowers.

   Subject: He saw a spring flowers.

2. A transformation involves no change of deep structure but the surface structure is generated by alternate rules.

   Text: He has gone to the store.

   Subject: He gone to the store.

3. A transformation involves the same deep structure but the surface structure is generated by alternate options.

   Text: Ted ran home to tell his father and mother.

   Subject: Ted ran home to tell his father and his mother.

4. The deep structure is lost or garbled.

Text: But we have many things to buy.

Subject: But we have many things to...

5. When a miscue produces no grammatical transformation regardless of whether there has been a change in meaning it is coded as transformation not being involved.

Text: And look at me! Monkey said.

Subject: And look at me! Muck said.

All the subjects' transformation miscues resulted in a greater percent of different deep structure than any other type of transformation including no involvement of grammatical transformation. One developmental trend was the greater percent of alternate options which the average readers produced, 5% and 4%, than the slower readers, .5% and 2%. This may be related to the different types of material read by the two groups. The material read by the average readers represents a much greater variety of syntax which allowed for alternate optional transformations to a greater extent than the primer and first grade material read by the slow readers. This will be researched at a later time when the slow readers read the same material as the average readers.

Semantic and Syntactic Acceptability

When a reader produces an observed response different from the expected response, it is possible for the miscue to result in a fully acceptable language structure even though it might change the meaning of the text. The categories concerned with acceptability analyze how many times and in what way miscues produce acceptable structures regardless of how much it changes the written structures or meaning of the material.

Separate categories analyze semantic (meaning) acceptability and syntactic (grammatical) acceptability. Acceptability categories assume the reader's dialect is acceptable.

The two categories set up five sub-categories for determining acceptability. The miscue results in:

1. Total acceptability in the passage.

   Text: She put the handbag into a box.

   Subject: She put the headband into a box.

2. The miscue results in acceptability in the sentence but not in the passage.

   Text: Dick gave her three dollars.

   Subject: Dick gave me her three dollars.

3. The miscue results in an acceptable structure or meaning only with the prior language of the sentence and not with what follows.

   Text: "What fun!" said Pat.

   Subject: "What funny..." said Pat.

4. The miscue results in an acceptable structure or meaning only with the language of the sentence following the miscue and not with what comes before it.

   Text: There a woman said to them, "May I help you?"

   Subject: Where a woman said to them, "May I help you?"

5. The miscue results in a structure which is semantically and syntactically unacceptable.

   Text: But first he wanted to buy a present for his mother.

   Subject: But first he wanted to bonny a present for his mother.

Semantic and syntactic acceptability are coded separately to see to what extent the two processes operate separately. It is possible to produce a syntactically acceptable sentence which is not semantically acceptable but since meaning is conveyed through syntactic rules it is not possible to have semantic acceptability without syntactic acceptability. Sentences can be semantically acceptable only with what comes prior but syntactically acceptable in the passage. There can be other variations between the two categories as well.

The difference between semantic acceptability and syntactic acceptability reflect the constraints that syntactic acceptability has in relation to language in general and suggests how the process is in operation in reading which is one of the language processes.

Figure 21.--Percent of Syntactic and Semantic Acceptability

	Subjects			
Syntactic Acceptability	Faust	Tony	Altha	Frank
In Total Passage	63%	69%	50%	44%
In Sentence	.4%	.2%	3%	.6%
With After	2%	2%	4%	5%
With Prior	20%	17%	13%	21%
Not Acceptable	15%	12%	30%	29%
Semantic Acceptability				
In Total Passage	36%	46%	36%	26%
In Sentence	7%	4%	12%	15%
With After	2%	2%	3%	6%
With Prior	23%	20%	16%	21%
Not Acceptable	32%	29%	34%	32%

Figure 21 indicates that all subjects had the same rank order of percentages for the various sub-categories within the syntactic acceptability category and within the semantic acceptability category but the difference between average readers and slow readers was that average readers used certain strategies to a greater extent than the slow readers. Both average readers produced more miscues which were syntactically acceptable in the passage than the slow readers. The slow readers' miscues were syntactically not acceptable almost twice as much as the average readers. The semantic acceptability does not reflect the same pattern and suggests that the content of the reading by Faust especially was almost as difficult for him as the primer and first grade reading material was for the slow readers. The semantic load or concept load in a story affected Faust's ability to produce semantically acceptable structures, even though he continued to produce syntactically acceptable ones.

By examining the interrelationship of the two categories it was evident that the average readers produced an acceptable syntactic structure which was not necessarily semantically acceptable more often than the slow readers. The average readers seemed to be more flexible in their use of syntactic structure and if a sentence was not acceptable semantically the readers preferred to maintain its syntactic acceptability.

Besides being more flexible with their use of syntax the other data which set the slow readers off from the average readers was that the slow readers produced almost twice the percentage of miscues which resulted in acceptable sentences although they were not acceptable to the whole story. This may indicate a stage of development where readers attempted to make use of minimal graphic cues but still produced acceptable language which had little relationship to the actual story context. Altha did this through almost two stories. Frank produced this type of behavior more eratically.

Text: Ted began to walk away.
But the woman said to him
"Do not go! I want to thank you.
We are going to the show.
Will you let me take you to see it?

Altha: Ted helped me find you.
But the mother she took him
Do not go! I will to thank you.
We are good friends to the show.
Would you let me go to the show?

So much of the slow reader's behavior tended to be word for word that this departure suggests an attempt on the readers' part to apply some strategies which might gain meaning since so many of these readers' miscues did not result in sounding like language.

A developmental trend related to syntactic acceptability is seen in Figure 22.

Figure 22.--Percent of Miscues Which Produce No Syntactic or Semantic Acceptability

Session	Subject							
	Faust		Tony		Altha		Frank	
	Syn*	Sem**	Syn	Sem	Syn	Sem	Syn	Sem
1	19	22	21	32	57	57	59	57
2	12	20	29	49	26	26	0	0
3	25	44	16	36	25	31	30	30
4	12	17	8	17	28	28	18	18
5	4	19	3	66	23	28	34	40
6	NA		8	17	36	37	25	29
7	12	22	8	14	NA	NA	23	26
8	15	39	7	20	NA	NA	25	30
Total	12	29	15	32	30	34	29	32

*Syn.=Syntactic

**Sem.=Semantic

Figure 22 shows that all subjects had a decreasing percent of syntactically unacceptable miscues from session to session. Since this was more true for the average readers than the slow readers, it may be related to the larger percent of non-word miscues which the average readers produced and the difference in the way their omissions affected the language structure.

Non-words are oral responses which readers made which are not recognizable American English words. Non-words and omissions seemed to be interrelated developmentally. Sometimes the initial reading of an unknown word was omitted. At other times a recognizable word was substituted for it. The subjects seemed to be aware that the choice was wrong so they abandoned it and either made another attempt at the same point or at a subsequent occurrence. The second attempt, for the average reader at least, was often a non-word. In order not to inflate the general miscue data, multiple attempts on the same graphic item were not included in general miscue data, but were coded separately in order to study this phenomena. This discussion on non-words will include all data collected.

The first time Frank read New Doll he came to the line, The new doll laughed and laughed. He responded by saying "like" for the first laughed then changed it to a non-word which sounded like lorked. The second time he saw laughed he said "looked".

Frank first used a real word with minimal graphic and phonemic cues when he close like. He then moved closer in terms of graphic and phonemic cues but also responded to the bound morpheme so he made use of syntactic information but not semantic. Finally, he came up with a real word that fitted syntactically and semantically still using a similar amount of graphic and phonemic cues as the non-word had.

Figure 23 shows the percent of only those non-words in the study which were coded for general miscue information and does not include multiple attempts.

Figure 23.--Percent of Non-Words

Session	Subjects			
	Faust	Tony	Altha	Frank
1	0	5.3	0	3.4
2	10	17.8	0	11.1
3	15.2	18.6	0	4.4
4	3.6	10.5	0	9.1
5	25.9	40.6	0	1.7
6	NA	8.3	0	0
7	7.6	5.1	0	2.1
8	13.6	15.6	0	3.3
Average Percent	11.4	14.6	0	2.8

Altha never produced a non-word. When she didn't know a word she either omitted or substituted a real word. Although Frank produced some non-words the average readers produced at least five times more non-words than he did.

Also as shown in Figure 24 their non-words were syntactically more acceptable than his and his non-words resulted in a much greater percent of unacceptable syntactic structures than the average readers'. A non-word is classified as syntactically acceptable if it retains proper inflections and/or intonation within the sentence structure.

Figure 24.--Percent of Non-words in Relation to Syntactic Acceptability

	Subject		
	Faust	Tony	Frank
Syntactically Unacceptable	15	3	40
Syntactically Acceptable in Total Passage	83	97	60

Again the non-word data indicates that these readers did not make random miscues. Figure 25 shows the combined graphic and phomenic category data on non-words only. This table shows that non-words had much closer proximity to the expected response than the proximity comparison of all miscues in terms of graphic and phonemic similarity. Few of the non-words had no similarity to the expected response.

Figure 25.--Percent of Graphic and Phonemic Similarity for Non-words

	Subjects					
	Faust		Tony		Frank	
	Gr.*	Ph.**	Gr.	Ph.	Gr.	Ph.
No Similarity	0	0	1	1	5	5
Letters/Sounds in Common	0	0	0	2	20	30
Beginning Common	29	17	33	12	50	10
Beginning, Middle, End Common	71	82	66	85	25	60

*Gr.=Graphic
**Ph.=Phonemic

Figure 26 shows the difference between non-word proximity and all the miscues. The scores were derived by subtracting the percent of graphic and phonemic similarity for all miscues from the percent of graphic and phonemic similarity for non-words only. The plus scores indicate that non-word miscues were closer to the expected response in similarity for all readers and when a subject produced a non-word he matched the sound-letter correspondence more finely than in other settings. Phonemic similarity was a stronger cue system for non-words than for all miscues in general.

Figure 26.--Difference Between Percent of Graphic and Phonemic Similarity on All Miscues and Percent For Non-words Only.

	Faust		Tony		Frank	
	Gr*	Ph**	Gr.	Ph.	Gr.	Ph.
No Similarity	-9	-16	-7	-15	-6	-11
Letters/Sounds In Common	-10	-8	-9	-5	+2	+15
Beginning Common	+3	-10	+8	-15	+11	-25
Beginnings, Middle & End	+17	+33	+8	+37	-9	+25

Looking at individual subcategories of phonemic and graphic categories shows that although 3% of all of Frank's miscues, 1% of all Tony's and 3% of Faust's had only letter endings in common there were no only letter endings in common for non-words. One percent of all non-words for all subjects had only final sounds in common. Obviously then, when sounding out was involved subjects were paying closer attention to graphic and phonemic cues and used more than the final letter for cueing purposes.

Although subjects did stick with a single non-word label for some expected responses like "trib" for tribe and "type-i-cle" for typical, they usually made a variety of attempts suggesting that they knew that they did not know. In one story where frankfurter appeared six times, Tony tried "frankfewter" three times, "frankfewt" once and "frankfruiter" twice. In a story where definitions appeared four times Faust said "defit-i-tons," "deefin-tee-us," "defendit" and "difoneteetons". This whole phenomena needs to be looked at more carefully and in greater depth in further research.

The ability of the average readers to produce more acceptable language was constantly demonstrated by this data. Omissions of words and free morphemes was a case in point and indicated how apparent surface behavior can mask underlying competence.

Figure 27 shows the semantic and syntactic sub-categories fully acceptable and fully unacceptable in relation to the omission of words.

Figure 27.--Percent of Omissions and Their Relation to Acceptability

	Faust		Tony		Altha		Frank	
	Syn*	Sem**	Syn	Sem	Syn	Sem	Syn	Sem
Acceptable In Total Passage	49%	44%	44%	40%	32%	27%	29%	14%
Unacceptable	34%	36%	33%	37%	62%	62%	48%	48%

*Syn=Syntactic
**Sem=Semantic
Figures do not add to 100% because minor sub-categories are not included.

Faust and Tony's percent of omissions on the word level (13% and 16% respectively) was less than Altha's and Frank's (18% and 19% respectively) however the two average readers produced more omissions which were fully acceptable in the story than the slow readers. The slow readers omitted words they did not know. The average readers were beyond this strategy and preferred to guess or substitute non-words than omit unknown words. The average readers' omissions changed to be omissions of words which are not necessary to the syntactic structure of the sentence. The omissions were qualitatively different for the average readers causing no loss to the structure or garble of meaning which was very different from the slow readers' omissions which were words they did not know. Examples of slow readers' omissions:

Text: I will walk under the apple tree.

Frank: I will walk...the apple tree.

Examples of average readers' omissions:

Text: Andrew had made a very favorable impression.

Tony: Andrew made a very favorable impression.

This not only was a difference between the average and slow readers but seems to be a developmental pattern for all subjects.

Viewing two stories of Tony's (an average reader), Kitten Jones, which was read at session 2 and My Brother Is A Genius, read at the last session in this study, will help clarify this discussion.

In session 2, Tony's omissions of words was 22% of all miscues; this figure dropped to 19% for session 8. His non-words for both sessions were about the same, 18% and 16%, with the higher percent in session 2. However, the miscues in session 2 resulted in syntactically acceptable structures in the passage 58% of the time while in session 8 it was 74% of the time. Semantic acceptability in the total passage for session 2 was 38% and for session 8 it was 50%.

Summary, Discussion and Implications. All the subjects' miscues produced considerably more syntactically acceptable structures than semantically acceptable ones. The average readers' miscues produced more syntactically acceptable and to a lesser extent more semantically acceptable structures than the slow readers.

Slow readers seem to have gone through a stage where semantic acceptability became a significant test; if the miscue is semantically acceptable they let it stand. It is hard to speculate how this would affect learning to read if it was systematically encouraged since no instructional program fully recognizes this test in reading. More research related to this aspect is in order. The data on acceptability suggests a developmental pattern; at first subjects omitted words they didn't know which resulted in unacceptable structures. Later they used"sounding out" techniques which produced non-words. These non-words had closer phonemic and graphic proximity than other miscues. Often this strategy resulted in the reader finally getting the right word. However, whether he got the non-word or not he was able, during the retelling, to give some close approximation of the non-word to the meaning intended by the author. Teachers must become more aware of these strategies which children bring to reading. If they examined this phenomena more closely they might make use of readers' strengths and not focus constantly on their weaknesses.

Teacher training programs might make use of reading miscue analysis to provide them with insights into what children are doing so they are able to support these developing strategies rather than work against them. Diagnostic instruments might also be helpful for this type of understanding.

Less immediate feedback in terms of their miscues may give children the opportunity to become more independent readers as they discover reading strategies that will make them confident of their own linguistic functioning.

Semantic and Syntactic Change

This analysis evaluates the extent of similarity to the text material once it has been determined that the structure that results is acceptable. The syntactic change category compares the observed response to the expected response on a 10 point scale with 0 being unrelated and 1 equal to a single syntactic element in common to 9 which is no change in syntax. Semantic change is also coded on a 10 point scale with 0 being unrelated and 1 being a change or loss of meaning causing major sentence anomalies to 9 indicating no change has occurred in the meaning of the story. Means for Syntactic and Semantic Change on the 0-9 scale is shown in Figure 28. Means were higher for the average readers than

Figure 28.--Syntactic and Semantic Change Mean Scores

	Subject							
Session	Faust		Tony		Altha		Frank	
	Syn*	Sem**	Syn	Sem	Syn	Sem	Syn	Sem
1	7.9	6.9	8.8	7.7	7.4	6.6	7.2	5.6
2	8.4	8.4	8.4	7.3	6.9	7.3	6.6	4.2
3	7.8	6.6	7.6	7.2	6.7	5.6	6.1	4.3
4	7.6	8.0	8.4	7.8	7.3	8.3	6.6	8.3
5	8.6	7.5	8.3	8.1	6.6	6.4	6.9	4.7
6	NA	NA	7.7	7.1	8.0	6.4	7.2	4.5
7	7.8	7.7	7.4	7.8	NA	NA	8.1	6.8
8	7.9	7.2	7.7	7.7	NA	NA	8.1	6.9
Total	7.8	7.4	7.8	7.6	7.1	6.5	7.4	5.8

*Syn=Syntactic
**Sem=Semantic

the slow but all means tended toward the minor change. Means for both syntactic and semantic change showed developmental increase from sessions 1-9 for Frank toward higher means. Altha's increase showed a similar tendency although it was less consistent while the means for the average readers have no pattern from session to session.

Prior to the coding of these two categories the acceptability of the structure had already been determined and these categories were not marked unless the miscues were either acceptable in the sentence or the whole story. Although the taxonomy codes the items on a ten point scale, for this analysis the data has been combined in a similar fashion to what was done for the graphic and phonemic categories. The syntactic change category listed unrelated syntactic structures in a separate sub-category. Structures which had single elements in common, key elements in common or cause a major change in the sentence pattern were listed under major change. Miscues which caused minor changes in the sentence patterns or changes within the phrase structure were listed under minor change. Those miscues which resulted in change in person, tense, number, or choice of function word or which result in no change were listed under little or no change.

The semantic change sub-categories were also combined, Meaning which was completely anomolous to the rest of the story was listed under the unrelated sub-category. The major change sub-category included all miscues which caused change or loss of major incident, character or sequence or seriously interfered with the subplot. Minor change included all miscues which caused inconsistencies of a minor nature or a significant loss which did not create inconsistencies. Little or no change included all miscues which were non-critical or did not change the meaning at all.

Figure 29 shows the total percent for these combined sub-categories for all subjects. All subjects had the same rank order of categories with all readers producing more percent of little or no change to the text both semantically and syntactically, once it had been determined that the miscue was semantically and syntactically acceptable.

Figure 29.--Percent of Syntactic and Semantic Change

	Faust		Tony		Altha		Frank	
	Syn*	Sem**	Syn	Sem	Syn	Sem	Syn	Sem
Unrelated	0	.4	0	0	0	1	2	3
Major Change	5	5	3	3	9	7	6	21
Minor Change	15	21	18	20	21	39	23	27
Little or No Change	80	74	79	77	70	54	69	49

*Syn=Syntactic
**Sem=Semantic

Summary, Discussion, Implications. The major aspect of the change categories was the strong tendency for all readers to produce little or no change in a structure or in the story context once it has been established that the structure was both semantically and syntactically acceptable. This tendency was greater for the average readers and stronger for syntactic change.

V

CORRECTION STRATEGY

The tendency in all the miscue research discussed so far for all these subjects is that when they produced a miscue they made use of graphic and phonemic cues and produced acceptable sentences which caused little change in the structure of story context. The average readers did this to a greater extent than the slow readers. However, the subjects had another option open to them once they had produced the miscue. They could regress and correct or make an attempt at correction. All the subjects made use of such correction strategy.

When a miscue was made, it was possible that the subjects were unaware that they had made a miscue. However, they could overtly indicate that they were aware of their miscue. They could repeat the material and correct to the expected response. This was coded as a successful attempt at correction. To a lesser extent they produced a second miscue when they regressed and this was coded as an unsuccessful attempt at correction. Example of a successful attempt at correction:

Ⓒ canberry
...cranberry picking in the fall.

The subject said "canberry" and at that point regressed and re-read saying overtly "cranberry picking in the fall."

Example of an unsuccessful attempt at correction:

(uc) 2. Ted
1. All
Tell me what you see.

The reader read "all" for "Tell" and then regressed and said "Ted" for Tell.

Another possible phenomena coded under the correction categories occurred when the subjects decided that the correct observed response was not correct, and abandoned the correct form in favor of a miscue.

Example of abandoning the correct response:

(UC) I'm
I am bigger than a mouse.

The child read "I am bigger than" which was the correct expected response, abandoned this form and produced "I'm bigger than a mouse."

All subjects showed some sophisticated use of correction as seen in Figure 30. They seldom corrected what was already correct as shown by the abandons correct row. This means they knew when to use correction strategy. They did not use it randomly. Their attempt at correction was usually accurate which is evident from the low percent of unsuccessful correction. Both Faust and Tony corrected more than Altha and Faust in this study. Comparison between this data and the first and second year study data on correction is also shown in Figure 30. In order to understand the significance of data on correction, it is necessary to relate this information to other miscue studies.

Figure 30.--Percent of Miscues Corrected and Comparison With First and Second Year Study

	Faust	Tony	Altha	Frank
Uncorrected	72	52	81	75
Corrected	24	41	14	19
Abandons Corrections	1	2	1	1
Unsuccessful Corrections	3	5	4	5
1st and 2nd Year Study Corrected	35	36	8	7

In a similar study on second, fourth, and sixth graders who were reading one year or more above grade level, Goodman and Burke concluded that "range of correction is 24% to 52% for the second grade, 11% to 57% for the fourth grade and

13% to 32% for the sixth grade. The most extreme correction behaviors are shown at the fourth grade level. "...by the sixth grade...there is more moderate use of miscue correction. With the move to silent reading and an ever increasing ability to handle deep structure the need for overt correction should tend to drop (Goodman and Burke, 1969, p. 47)."

Relating the above information to this data suggests that the slow readers were developmentally moving toward an average use of correction strategy for second graders. Faust went through a peak use of correction as seen by comparing his present percent of correction (24%) to his percent of correction during the first and second year study (35%). He may at this point have stabilized his use of correction.

Tony, on the other hand, was still attempting to produce orally an exact rendition of what he was reading.

It must be remembered that as reading becomes more proficient, more miscues are fully acceptable and the percent requiring correction diminishes. In other words the ability to correct develops parallel to the production of better and better miscues which, in turn, makes correction less necessary.

Tony not only reflected high use of correction in over all correction data but an examination of Figure 31, which shows the relationship between correction and acceptability indicates extensive unnecessary correction. Tony's average percent of correction was 41%. Both he and Faust were more likely to correct miscues which were syntactically unacceptable than those semantically unacceptable.

However, his pattern for correction in relation to semantic acceptability in the passage was not like Faust's. Tony had almost the same percent of correction for both categories. He seemed to want the semantically acceptable miscues to be as close to the text rendition as possible. Generally, however Faust and Tony both showed greater proficiency in the use of correction strategies since they corrected syntactically unacceptable miscues to a greater extent than the average percent of correction while the slow readers tended to correct the same amount for syntactically unacceptable miscues as their average percent of correction. The slow readers were somewhat aware that acceptable miscues did not need overt oorrection.

Figure 31.--Percent of Correction for Sub-categories of Syntactic and Semantic Acceptability

	Faust		Tony		Altha		Frank	
	Syn*	Sem**	Syn	Sem	Syn	Sem	Syn	Sem
Unacceptable	37	25	60	42	15	15	20	19
Acceptable With Prior Only	42	39	73	65	33	30	32	31
Acceptable*** Only With After	0	0	38	33	14	0	17	16
Acceptable*** In The Sentence Only	50	24	100	35	0	8	0	10
Acceptable In The Passage	15	13	30	31	7	8	12	14
Average Percent of Correction	23		41		13		19	

*Syn=Syntactic
**Sem=Semantic
***Since numbers are small in these sub-categories percentages are not useful.

As has been true in other miscue studies, all subjects corrected more consistently when the miscue was acceptable with only the prior linguistic structure than any other sub-category. This supports a view of the reading process which states that the reader "through a process that combines sampling and prediction, leaps to the deep structure and meaning without using all the information available to him. He acquires strategies as a language user that enables him to select only the most productive cues. His user's knowledge of language structure and the redundancy of that structure make it possible for him to predict and anticipate the grammatical pattern on the basis of identifying a few elements in it." If the prediction of the reader is demonstrated to be wrong, as he continues to read, by subsequent clues, he will then reject his prediction and regress for additional language cues in order to produce a more acceptable prediction (K. Goodman, 1969, p. 12).

On the other hand, if the structure is too garbled (fully unacceptable) he may be too lost or confused to regress for more acceptable cues, or even to locate the point where he got lost.

Example of unacceptable structure which was not corrected:

Text: I wish I could go, Father.

Subject: I want and ice cream go, Father.

Example of unacceptable structure which was corrected.

Text: Will I get one?

Subject: With...with...will I get one?

The latter example was a simpler unacceptable miscue and the subject was able to handle it and correct more easily.

All the subjects also indicated that they generally knew when to correct since they corrected miscues which resulted in fully acceptable structure less than half as often as they corrected unacceptable structures or structures acceptable only with prior.

Examining the correction of the various sub-categories of syntactic change shown in Figure 32 support the significance of the syntactic and semantic acceptability categories.

The lower five rows from *major change in phrase* down to *unrelated* are not very significant since they represent no more than five miscues for any one subject. However the top five sub-categories suggest that when the subjects corrected those miscues which were semantically and syntactically acceptable they tended to correct those which caused change to the text more than those which did not cause change. Since few miscues fell in the major change sub-categories (the bottom five rows) of the overall categories then it can be concluded that when miscues are acceptable they cause minor change to the story content and language structure. When they cause change they tend to be corrected more than the miscues which cause no change. This tendency was greater for the average subjects than the slow. For some sub-categories correction of semantic change was greater than syntactic

Figure 32.--Percent of Correction for Sub-categories of Syntactic and Semantic Change

	Faust		Tony		Altha		Frank	
	Syn**	Sem***	Syn	Sem	Syn	Sem	Syn	Sem
No Change*	12	13	30	32	5	14	9	11
Function Word Change	21	13	32	22	18	9	13	21
Person Tense Change	23	12	41	31	7	8	30	15
Minor Change In Phrase	20	28	22	38	13	0	13	0
Major Change In Phrase	44	0	29	0	0	0	13	30
Minor Sentence Change	17	31	33	50	0	0	50	9
Major Sentence Change	0	0	33	50	0	50	29	0
Key Element In Common	0	0	0	50	0	0	0	13
Single Element In Common	0	0	0	0	0	0	0	8
Unrelated	0	100	0	0	0	0	0	25
Average Correct	15		31		7		12	

*These are titles for the syntactic change sub-categories. Semantic change sub-categories are listed in Appendix A and are related hierarchically.

**Syn=Syntactic

***Sem=Semantic

change. Syntactic change which is acceptable does not necessarily change meaning while semantic change changes the intent of the author's meaning. This was reflected in the tendency to correct semantic change more than syntactic change in some sub-categories.

Summary, Discussion and Implications. All subjects correct miscues and showed use of selective correction strategies. They seldom abandoned correct forms. When they corrected their corrections were successful most of the time. They tended to correct unacceptable structures more than acceptable ones and miscues which caused minor change to the syntax or semantics more than the miscues which caused no change. Correction strategies showed developmental trends as slow readers and younger readers increased their percent of correction strategy but the percent then seemed to stabilize. Continued research may suggest a range of percent of correction which may be considered good reading strategy. Research may be in order to determine whether readers should be encouraged to be selective in their correction concentrating on whether the miscue is acceptable. Research should also examine how much the correction of acceptable structures is a function of instruction as the reader tries to produce an exact rendition of the written material because he perceives that is the view his teacher has of the reading process. A limitation of oral reading as a research procedure must be noted. The subject may not correct as many acceptable structures in his silent reading as in his oral reading. It may be that he uses a different reading mode for oral reading. This would be more true for the readers who do a good deal of silent reading and probably begin to operate differently for silent and oral reading.

The fact that readers make proficient use of correction strategies again supports the notion that a reader can supply his own immediate feedback when he needs it in reading and the teacher does not need to play this role to such a great extent. Children should be allowed to read without teacher correction so they can more fully develop the use of their own correction strategies. Teachers can also begin to see whether children have this strength if they allow readers to read unaided.

Teachers might do well to make readers aware of their own tendency to correct so readers can consciously make use of this strategy and begin to explore when it is efficient to correct and when it is not.

VI

RETELLING THE STORY

As often as possible the subjects were asked to retell the story in their own words after the oral reading. Because of fatigue or unavoidable classroom schedules, the subjects did not always have time to retell the story. When they did retell the story they were asked to retell as much of it as they remembered. They were then encouraged to continue retelling through the use of open-ended questions.

An open-ended retelling format provides for information from the subject which usually is lost in most conventional comprehension checks. There is no information offered to the subject in this type of retelling and whatever information the reader provides is expanded on. The subject is informed at the beginning of the reading that he will be asked to retell the story. After reading the story and a drink of water the child returns to the setting and the retelling is tape recorded. The book is closed and the researcher asks "Tell me everything you remember about the story." Only when the child stops retelling would the researcher say "Do you remember anything else?" and again wait until the child finished. The researcher then picks up on information from the child's own retelling and encourages the child to continue.

"What is a ________?" "Tell me more about _________." Open-ended questioning with a friendly but neutral reaction takes time to develop and the utility of these second and third year study retellings still suffers from too supportive a researcher. Generally, however, there was improvement in the retelling questioning procedures over the first and second year study.

In order to control the rating of the retelling, an outline was prepared for each story using similar categories for all the stories. Depending on the complexity of the story and the emphasis given by the author, the different categories might have different maximum points possible but for each story the points added to 100. Figure 33 shows the categories for the two different kinds of stories used and the range of maximum points which might be assigned for each category.

Figure 33.--General Rating Scale For Stories

		Range of Points
I.	Fiction Stories	
	Recall of Character	10-15
	Character Development	10-15
	Theme	15-30
	Subtleties	10
	Plot	15-25
	Events	15-20
II.	Non-Fiction Stories	
	Theme - Major Concept	30
	Generalizations	30
	Specifics	40

All but two of the stories used the Fiction Story format. What Is Big and History of the Hot Dog were considered non-fiction or concept stories and used the non-fiction story format.

Figure 34 shows the retelling score of each subject for each story that had an available retelling. The total score possible is 100. The retelling scores are low because the theme and plot scores combined could range from 25-50 points and only once did any of these children ever give the theme or plot of the story. Tony did get half credit for theme and full credit in plot in Andre's Secret. All the children seem to be good in relating the sequence of major events recalling characters. The major difference in the scores among the four children represent inclusion of minor events in the sequence of events and depth of information related to the development of character.

Interesting reactions are collected from the subjects during the retelling. In Freddie Miller, Scientist, Tony read "trenson" for transom the first time it appeared in the text, the second time it appeared in the text he said "trala" and then pronounced the word correctly. This evidence

Figure 34.--Retelling Scores

	Faust	Tony	Altha	Frank
1	What Makes Gus Smile 40 pts.	Home At Last 44pts.	Little Monkey 25 pts.	New Doll 18 pts.
2	Freddie Miller, Scientist 16 pts.	Kitten Jones 31 pts.	New Doll 34 pts.	Not Available
3	My Brother Is A Genius 13 pts.	Andre's Secret 59 pts.	The Big Surprise 30 pts.	The Big Surprise 36 pts.
4	Billy Whitemoon 32 pts.	Billy Whitemoon 22 pts.	What Is Big? 43 pts.	What Is Big? 50 pts.
5	History of the Hot Dog 5 pts.	History of the Hot Dog 5 pts.	A Lot To Tell 27 pts.	A Lot To Tell 29 pts.
6	Not Available	Not Available	Fun In The Snow 22 pts	Fun In The Snow 22 pts.
7	My Brother Is A Genius 15 pts.	Freddie Miller Scientist 40 pts.	Not Available	A Lot To Tell 23 pts.
8	Sheep Dog 10 pts.	My Brother Is A Genius 14 pts.	Not Available	Halloween on The River 19 pts

suggests he is not familiar with the word but can pronounce it. There is no way of knowing whether he understands it. However, during the retelling of the story, Tony said "...it had a handle for Elizabeth to hold and he dropped it in the ...uh...I forgot that name, but it was something like a window." He still didn't have the label but he had the concept. The retelling suggests that the story was written in such a way that even if the child came up with a mispronunciation, he still gained the meaning from the text.

In Kitten Jones the word prize appears four times. Tony omitted it the first and last time it appeared and substituted present for it the other two times. In the retelling Tony started out by saying "Kitten Jones took a picture of a crow and she won a ball, a bowl and some candy." The researcher aware of the child's repeated miscues on *prizes* said "What do you mean Kitten Jones won those things."

Tony replied, "A prize...now that what that hard word was."

In this case the child showed the researcher ways in which he attempted words which looked unfamiliar to him as he was reading but let it be known through an open-ended questioning situation that he had the concept all along but just had to relate it to the graphic form. A teacher could gain similar insights into a reader's functioning if he uses similar techniques in listening to the retelling of children's reading. This type of data gathering on comprehension needs to be researched more to discover its full potential but its possibilities in teacher training and reader diagnosis is impressive.

The materials presented to the subjects which were not in the conventional basal *History of the Hot Dog* and *What Is Big?* were both non-fiction. The average readers got their lowest retelling score on *History of a Hot Dog* while the slow readers got their highest retelling score on *What Is Big?* . Different modes of reading material present a variety of new problems to readers. Not only do readers need to relate their knowledge of language to reading and select the appropriate graphic,phonemic, semantic and syntactic cues but in addition they must relate the context or information to their own background and knowledge in order to understand. *History of the Hot Dog* is a chronological history of the development of the hot dog from earliest days in Europe to present day America. It has names unfamiliar to the children and many bits and pieces of information. The generalization that sausages have been eaten by many different cultures and the theme that cultures not only borrow from each other but change what they borrow to fit their particular needs was difficult for the readers to pull out of the mass of facts, events and bits of information. The concepts which were presented were not familiar to the youngsters and they had little prior knowledge to bring to the reading to help them understand the new information being gathered. Faust indicated the attempt of the reader to use his own prior knowledge to understand. In the retelling he said, "It's (the hot dog) kind of skinny like a microphone. When it comes out of the freezer it's real stiff, like square, not so long. Then you boil it and it has the ice come out of it and it turns red." None of the above information was in the story, but Faust was trying to bring to the story whatever he did know but it wasn't enough to help him understand the ideas and information being presented in the story.

What Is Big?, on the other hand, is a single concept story with all the written material relating to the theme that size is relative. The slow readers were able not only to retell the sequence of which animals were bigger than the boy and which were smaller but each was able to pull the events together and make a statement about the overarching theme.

Frank said, "Tommy, he thought he was shorter than a giraffe and a elephant was bigger than him and he was bigger than a dog or cat." Frank used the words big and bigger in the story. Altha said, "It's about small and little and sizes." She used big, bigger and biggest in the retelling in the appropriate situations. The children were dealing with a concept they were familiar with and brought enough to the reading to understand it more fully than any other story they read.

It is obvious that the content or concept load of the material itself is significant to the retelling. Some of the content load can be diagnosed by the taxonomy itself because the retelling score does relate to correction. There was a tendency to correct more with the higher retelling scores for all subjects. There was no statistical evidence which would reveal developmental information regarding retelling scores. A limitation to the retelling score is concerned with the reading tasks which were presented to these readers. Although there was a pattern to the presentation of material the researcher attempted to provide the subjects, especially the average readers with complex reading material. These children were in school equivalent to the third grade when Tony was given fifth and sixth grade material and Faust was given sixth and eighth grade material. The stories were not only complex but were much longer than the previous stories. It is therefore not possible to come to conclusions regarding retelling in relation to developmental trends without taking these variables into consideration.

Discussion, Summary and Implications. All the subjects were able to retell minimal aspects of a story regardless of number of miscues. These subjects tended to concentrate on the retelling of specifics from the story and did not relate information about theme or plot. Open-ended questioning during retelling was revealing in terms of what the subjects had learned during the story and gave the researcher knowledge about how the readers processed information which they would not have gained through a more conventional type of comprehension check. Further research will need to be done to gain insight into the developmental aspects of gaining meaning by studying these children reading materials more within their experiential background. This data has been collected on these children during their fourth, fifth and sixth years in school and was not part of this study and analysis remains to be done.

The vacilating scores of the average readers in various aspects of the data collected may have been the result of too difficult reading tasks which is suggested by their low retelling scores.

VII

CONCLUSIONS

Summary

Four children's oral reading was taped at eight regular intervals in order to analyze their oral reading miscues during their second and third year of reading instruction in school. Two of the children were average readers and two were slow. The miscues were analyzed using the Goodman Taxonomy of Reading Miscues which was developed through the application of psycholinguistic principles to reading.

The major purpose of the study was to describe the development of oral reading through this type of depth analysis in order to gain greater understanding about how children learn to read. The subjects read unfamiliar fiction and non-fiction materials and were given no aid while reading although they were encouraged to continue to read. This has been a continuation of a study of the same children during their first and second year of reading instruction.

In this study all subjects were able to use the same strategies. They all produced miscues. They tended to correct those miscues which resulted in unacceptable structures especially if the structure was unacceptable only with the language prior to the miscue. Readers' substitution miscues generally had a strong tendency toward some graphic and phonemic similarity. Their substitution miscues were often the same part of speech as the text word they replaced. When readers made miscues they tended to be semantically and syntactically acceptable although syntactic acceptability was higher. Readers gained meaning from reading. In other words, all the subjects used similar strategies when they read. They predicted and anticipated as they were reading, they confirmed their predictions and sometimes attempted to correct their prediction especially if it produced a semantically or syntactically unacceptable structure. The major differences between the average and slow readers did not lie in the use of the strategies but in the ability to use the strategies effectively so that they made a difference to the acceptability of the language produced by the miscue. A second difference was the average readers' ability to emphasize one strategy to a greater extent than others but at the same time keep all the strategies operating together. The slow readers showed developmental trends in using these strategies and seemed to be moving toward the percents of the average readers. The average readers' percents of use of the strategies seemed to fluctuate and it is likely that the content and structure of the written material may have caused these vascilations.

Since these conclusions can only be applied to these four subjects, they have been stated in the form of hypotheses and further research is needed to see if the hypotheses hold true for larger numbers of readers.

Hypotheses Related To All Readers.

1. All readers make reading miscues.

2. Miscues per hundred words vary from reader to reader and from reading to reading for any one reader.

3. Many variables affect miscues per hundred words but miscues per hundred words alone cannot indicate how difficult written material will be for readers nor how well they will be able to comprehend the material. Miscues per hundred words cannot be used as an absolute measure to determine readability or frustration level.

4. Dialect in and of itself is not an interference in learning to read since both slow and average readers use similar dialect variations in amount and kind.

5. The dialect variations reflect the oral language patterns of the reader.

6. Readers tend to use intonation proficiently in oral reading.

7. Intonation miscues tend to be caused by introduction of punctuation conventions into the reading material with which readers are unfamiliar.

8. Readers have enough visual discrimination that their miscues have some graphic and phonemic similarity to the expected response at least 90 percent of the time.

9. When readers produce miscues with no graphic or phonemic similarity to the expected response they tend to be more syntactically and semantically acceptable than miscues with closer graphic and phonemic proximity to the expected response.

10. Readers show that they are gaining meaning when their miscues are semantically related to the observed response.

11. When readers' miscues result in acceptable structure and meaning they tend to cause minor change to the syntax and semantics of the text.

12. Differences in reading material affect semantic acceptability for all readers while syntactic acceptability becomes more stable as readers mature.

13. All readers correct their miscues and are usually successful in their correction attempts.

The above hypotheses are the aspects of reading strategies which all readers have to some extent. The following groups of hypotheses suggest that when the strategy is supportive to the reading process, the average readers use the strategies to a greater extent than the slow readers.

Hypotheses Concerning Differences Between Average and Slow Readers.

1. Average readers tend to have fewer miscues per hundred words and a more narrow range of miscues per hundred words than slow readers.

2. Average readers' miscues show closer proximity to the expected response in terms of graphic and phonemic similarity than slow readers.

3. Slow readers' miscues show finer graphic and phonemic discrimination from session to session.

4. Average readers' graphic and phonemic proximity miscues tend to stabalize and do not continue to increase.

5. Average readers have a higher percent of miscues which produce syntactically acceptable structures than the slow readers.

6. Average readers tend to correct more than slow readers.

7. Slow readers' use of correction increases over a period of a year.

8. Slow readers' miscues produce increasingly more syntactically and semantically acceptable structures than unacceptable.

Based on the research of these four children and supported by other miscues studies, the following is an emerging profile of a second or third grade proficient reader.

1. He would make a range of miscues per hundred words but generally his miscues per hundred words would be less than nine.

2. His miscues would produce more syntactically and semantically acceptable structures than unacceptable structures.

3. Although he would correct some of the miscues which produced acceptable structures his tendency would be to correct more of the miscues which resulted in unacceptable structures.

4. His miscues would tend to be close in graphic and phonemic proximity.

5. When his miscues were not similar to the graphic word they would often be syntactically and semantically acceptable.

6. He would have few intonation miscues.

7. His dialect miscues would be representative of his oral language but would not be used in reading as consistently as he used it in his oral language.

Although this study indicates the profile of an average reader, continued research of this type with larger numbers of readers might suggest statistical ranges in the use of strategies in reading which might separate proficient or average readers from slow ones.

Implications

For Teachers. Children have many reading strategies which they use when they read. Whatever strengths they have are supported within the context of language. Readers should, therefore, also be given real reading material to use during reading instruction and not hampered by having to deal with letters, words, phrases or sentences in an artificial isolated setting. Readers learn to read as they are reading. They seem to know when they do not know. They will become more effective, independent readers if they are not provided with immediate feedback and are given the opportunity to discover how to interrelate the various reading strategies, and how to judge which is more significant at any particular situation in reading. Some readers may need more help than others in order to learn to do this but too much immediate feedback on an omitted word or a non-word may make the child rely on the teacher and not allow him to become an independent reader.

For Teacher Training and Diagnosis. Miscue analysis is a powerful tool to provide teachers and reading specialists with insights into the reading process and at the same time focus on the strengths and abilities of a particular reader. Instruments which involve miscue analysis should not simply count miscues and regressions and make decisions based on quantitative analysis. Analyzing miscues in terms of their interrelationship to language cue systems gives the teacher or reading specialist the opportunity to evaluate children's miscues based on whether the miscue enhanced the reading or interferred with it. Language cues which enhance a reader's opportunity to gain meaning should be encouraged and become part of a teacher's or diagnostician's instructional methodology. Miscues which cause an interference in gaining of meaning tend to diminish as children learn to use the language cues which enhance meaning. Open-ended retelling sessions give a good deal of insights to the teacher about how the child is using his language knowledge in learning to read.

For Research. The emerging nature of the Goodman Taxonomy has caused some of the data analyzed during the first and second year study to show a lack of comparability to the second and third year study. Data has been collected already on these children for three years following the second and third year study and certain aspects of the taxonomy have continued to be changed and redefined. It will be necessary for all the data to be analyzed by the same instrument at the same point in time in order to see comparable developmental trends.

The analysis in this study needs to be compared to other miscue studies in greater depth in order to reject or support the stated hypotheses. Additional research on large groups of readers using the Goodman Taxonomy of Reading Miscues would also help to support or reject the hypotheses stated.

Miscue analysis is beginning to provide for those involved in how children learn to read,a profile of what happens when someone reads and how people learn to read. Continued research of this type is vital to knowledge about reading.

APPENDIX A

GOODMAN TAXONOMY OF READING MISCUES

Correction

0 no
1 yes
2 abandons correct
9 unsuccessful

Dialect Involved

0 no
1 yes
2 idiolect
3 super correct
4 secondary involvement in miscue
5 foreign language influence
9 doubtful

Graphic

blank
0 no similarity
1 letters in common
2 any key letter in common or the middle portions similar
3 end
4 beginning
5 beginning, middle
6 beginning, end/middle, end
7 beginning, middle, end or reversals of three letters or more
8 single grapheme difference or reversals of two letters or all but punctuation
9 homographs

Phonemic

blank
0 no similarity
1 some common sounds
2 single key elements in common
3 final portions in common
4 common beginning
5 common beginning and middle portions
6 common beginning, end/middle, end
7 beginning, middle and end similar
8 differ in single vowel or consonant or morphophonemic or intonation shift (including schwa)
9 homophones

Allologs

0 no
1 contraction/full
2 full/contraction
3 contraction not rep. in print
4 long and short forms or syllable deletion/insertion
5 shift to idiomatic form
6 shift from idiomatic form
7 misarticulation

Syntactic Acceptability

0 no
1 only with prior
2 only with after
3 in sentence
4 in total passage

Semantic Acceptability

0 no
1 only with prior
2 only with after
3 in sentence
4 in total passage

Transformation

0 no transformation
1 through different deep structures
2 same deep structure--through alternate or compulsory rules
3 alternate options
4 deep structure lost or garbled
9 doubtful

Syntax

blank
0 unrelated
1 single element in common
2 key element in common
3 major change in sentence pattern
4 minor change in sentence pattern
5 a major change within structure of the phrase

6 minor change within structure of phrase
7 change in person, tense or number
8 change in choice of function word or other minor shift
9 unchanged

Semantic

blank
0 completely anomalous to rest of story
1 change or loss affecting plot in basic sense or creates major anomalies
2 change or loss involving key aspects or seriously interferring with sub-plots
3 change or loss resulting in inconsistency of major incident, major character or major aspect of sequence
4 change or loss resulting in inconsistency of minor incident, minor character or minor aspect of sequence
5 change or loss of aspect which is significant but does not create inconsistencies
6 change or loss of unimportant detail
7 change in person, tense, number, comparative, etc. which is non-critical
8 slight change in connotation or similar name which doesn't confuse cast
9 no change

Intonation

0 no
1 within words
2 between words within one phrase structure
3 relative to phrase or clause structure of the sentence
4 end of phrase or sentence (terminal)
5 conjunction substituted for terminal or vice versa
6 intonation involving direct quotes

Sub-morphemic Level

0 no
1 substitution
2 insertion
3 omission
4 reversal
5 multiple minor variations

Bound and Combined Morpheme

0 no
1 substitution
2 insertion
3 omission
4 reversal

0 no
1 inflectional suffix
2 non-inflected form
3 contractional suffix
4 derivational suffix
5 prefix
6 miscue across affix types
7 miscue involving base

Word and Free Morpheme

0 no
1 substitution
2 insertion
3 omission
4 reversal

0 no
1 multiple morpheme word (O.R.) for multiple morpheme word (E.R.)
2 single morpheme word (O.R.) for single morpheme word (E.R.)
3. multiple morpheme word (O.R.) for single morpheme word (E.R.)'
4 single morpheme word (O.R.) for multiple morpheme word (E.R.)
5 word or free morpheme in longer word
6 word in compound
7 non-word
8 dialect alternative

Phrase

0 no
1 substitution
2 insertion
3 omission
4 reversal

Clause

0 no
1 substitution
2 insertion
3 omission
4 reversal without change in dependency
5 clause dependency is altered within sentence
6 clause dependency is altered across sentences

Grammatical Category and Surface Structure of O.R.

1. Noun
2. Verb
3. Noun Modifier
4. Verb Modifier
5. Function Word
6. Indeterminate
7. Contractions

	(left)		(right)
1	pronoun	1	verb marker
2	verb marker	2	be
3	be	3	trans verb (have)
4	let	4	negative
5	question marker/ clause marker	5	pronoun (us)
6	it/there		
7	adverb		
8	noun		
9	transitive verb (have)		

Semantic Word Relationships

blank
0 unrelated
1 primarily syntactic relationship with minor semantic association
2 strong sequential semantic association to prior/subsequent word or to word itself
3 association to homophone or homograph
4 shift to generic from specific
5 shift to specific from generic
6 common attribute or confusion between characters
7 antonym
8 other in a pair
9 variant form of same word: inflected or derivational
10 slight difference in connotation
11 similar name
12 synonym within the text
13 synonym in other contexts
14 some semantic association between E.R. and O.R.

APPENDIX B

BIBLIOGRAPHIC INFORMATION ON EACH STORY

Story Title	
Little Monkey	*Up The Street and Down* (P ABC, New York: American Book Company, 1963), pp. 23-28.
The New Doll	*Up The Street and Down* (P ABC, New York: American Book Company, 1963), pp. 86-90.
Too Soon For Freddie	*Up The Street and Down* (P ABC, New York: American Book Company, 1963), p. 114.
The Big Surprise	*Around Green Hills* (Book I ABC, New York: American Book Company, 1963), pp. 36-40.
A Lot To Tell	*Around Green Hills* (Book I ABC, New York: American Book Company, 1963), pp. 135-140.
Fun In The Snow	*Around Green Hills* (Book I ABC, New York: American Book Company, 1963), pp. 156-161.
What Is Big?	*Sounds of Numbers* (Holt P, New York: Holt, Rinehart and Winston, 1966), pp. 36-57.
Halloween On The River	*Down the Singing River* (Book II-1 ABC, New York: American Book Company, 1963), pp. 85-90.
Home At Last	*Over A City Bridge* (Book II-2 ABC, New York: American Book Company, 1963), pp. 42-48.
Kitten Jones	*Beyond Treasure Valley* (Book III-1 ABC, New York: American Book Company, 1963), pp. 60-66.
Let's Make Gus Smile	*Along Friendly Roads* (Book III-2 ABC, New York: American Book Company, 1963), pp. 46-52.
Billy Whitemoon	*Along Friendly Roads* (Book III-2 ABC, New York: American Book Company, 1963), pp. 153-160.
Seven At One Blow	*American Adventure* (Book IV ABC, New York: American Book Company, 1963), pp. 47-53.
Andre's Secret	*American Adventures* (Book IV ABC, New York: American Book Company, 1963), pp. 97-103.

Story Title	Book Title, Grade, Publisher and Page
Freddie Miller, Scientist	Adventures Here and There (Book V ABC, New York: American Book Company, 1963), pp. 61-68.
My Brother Is A Genius	Adventures Now and Then (Book VI ABC, New York: American Book Company, 1963), pp. 246-256.
History of the Hot Dog	Sounds of a Hunter (Book V Holt, New York: Holt Rinehart and Winston, 1966), pp. 202-205.
Sheep Dog	Widening Views (Book VIII Allyn & Bacon, Boston: Allyn and Bacon, Inc., 1966), pp. 80-88.

REFERENCES

Berko, Jean and Roger Brown. Psycholinguistic research methods. Handbook of Research Methods in Child Development, Paul H. Mussen (Ed.), New York: John Wiley and Sons, Inc., 1960, pp. 517-560.

Carlson, Kenneth L. A psycholinguistic description of selected fourth grade children reading a variety of contextual material. Unpublished doctoral dissertation, Wayne State University, 1970.

Carroll, John. The analysis of reading instruction: Perspectives from psychology and linguistics. Theories of Learning and Instruction, The Sixty-Third Yearbook of the National Society for the Study of Education, Part I, Ernest P. Hilgard, (Ed.), Chicago: University of Chicago Press, 1966, pp. 336-353.

Chall, Jeanne, Research in linguistics and reading instruction: Implications for further research and practice. Jean Chall and J. Allen Figurel (Eds.), Reading and Realism, Vol. 13, Part I, Thirteenth Annual Convention IRA, Newark, 1969.

Clay, Marie M. Reading errors and self-correction behavior. The British Journal of Educational Psychology, Part I, Vol. 39, February, 1969, pp. 47-56.

Ervin, Susan M. and Wick R. Miller. Language Development. Harold Stevenson (Ed.), Sixty-second Yearbook of the National Society for the Study of Education, Chicago: University of Chicago Press, 1965.

Fasold, Ralph W. Orthography in reading materials for black english speaking children. Teaching Black Children to Read, Joan Baratz and Roger Shuy (Eds.), Washington D. C.; Center for Applied Linguistics, 1969, pp. 68-91.

Goodman, Kenneth S. Analysis of oral reading miscues: Applied psycholinguistics. Reading Research Quarterly, Vol. 5, No. 1, Fall, 1969, pp. 18-27.

Goodman, Kenneth S. and Carolyn Burke, A study of oral reading miscues that result in grammatical re-transformations. U. S. Department of Health,Education and Welfare, Office of Education, 1969.

Goodman, Yetta M. A psycholinguistic description of observed oral reading phenomena in selected young beginning readers. Unpublished doctoral dissertation, Wayne State University, 1967.

Gutknecht, Bruce. A psycholinguistic analysis of the oral reading behavior of selected children identified as percentually handicapped. Unpublished doctoral dissertation, Wayne State University, 1971.

Labov, William. Some sources of reading problems for negro speakers of nonstandard english. Teaching Black Children to Read, Joan Baratz and Roger Shuy (Eds.), Washington D. C.: Center for Applied Linguistics, 1969, pp. 29-67.

McKim, Margaret. Reading in the primary grades. Development In and Through Reading, Sixtieth Yearbook of the National Society for the Study of Education, Nelson B. Henry (Ed.), Chicago: University of Chicago Press, 1961, pp. 270-287.

Miller, George A. Some preliminaries to psycholinguistics. American Psychologists, Vol. 20, January, 1965, pp. 15-20.

Page, William D. A psycholinguistic description of patterns of miscues generated by a proficient reader in second grade, an average reader in fourth grade, and an average reader in sixth grade encountering ten basal reader selections ranging from pre-primer to sixth grade. Unpublished doctoral dissertation, Wayne State University, 1970.

Shuy, Roger W. Discovering american dialects. Champaign, Illinois: National Council of Teachers of English, 1967.

Smith, Frank and Kenneth S. Goodman. On the psycholinguistic method of teaching reading. Elementary English, Vol. 71, No. 4, January, 1971, pp. 177-181.

Weber, Rose Marie. A linguistic analysis of first grade reading errors. Unpublished research report, Cornell University, 1967.

Wolfram, Walter W. A sociolinguistic description of detroit negro speech. Washington D.C.: Center for Applied Linguistics, 1969.

COMPLETE BIBLIOGRAPHY OF READING MISCUE RESEARCH STUDIES

Allen, Paul David. "A Psycholinguistic Analysis of the Substitution Miscues of Selected Oral Readers in Grades Two, Four, and Six and the Relationship of These Miscues to the Reading Process: A Descriptive Study." Unpublished doctoral dissertation, Wayne State University, 1969.

Allen, Paul David, Carolyn L. Burke, Yetta M. Goodman and Helen Martellock. "Applications of Psycholinguistics to Key Problems in Reading," Symposium II, International Reading Association, Kansas City, Unpublished presentation, 1969.

Burke, Carolyn L. "A Psycholinguistic Description of Grammatical Restructurings in the Oral Reading of a Selected Group of Middle School Children," Unpublished doctoral dissertation, Wayne State University, June, 1969.

Carlson, Kenneth L. "A Psycholinguistic Description of Selected Fourth Grade Children Reading a Variety of Contextual Material," Unpublished doctoral dissertation, Wayne State University, 1970.

Goodman, Kenneth S. "Analysis of Reading Miscues: Applied Psycholinguistics," *Reading Research Quarterly*, Fall, 1969.

Goodman, Kenneth S. *Study of Children's Behavior While Reading Orally*, U.S.O.E. Final Report, Project No. S425, Contract No. OE-6-10-136, U. S. Department of Health, Education, and Welfare, March, 1968.

Goodman, Kenneth S. *A Study of Oral Reading Miscues That Result In Grammatical Re-Transformations*, U.S.O.E. Final Report, Project No. 7-#-219, Contract No. OEG-0-8-070219-2806 (010), U. S. Department of Health, Education and Welfare, June, 1969.

Goodman, Kenneth S. and Carolyn L. Burke. "When A Child Reads: A Psycholinguistic Analysis," *Elementary English*, January, 1970.

Goodman, Yetta M. "A Psycholinguistic Description of Observed Oral Reading Phenomena in Selected Young Beginning Readers," Unpublished doctoral dissertation, Wayne State University, 1967.

Gutknecht, Bruce A. "A Psycholinguistic Analysis of the Oral Reading Behavior of Selected Children Identified As Perceptually Handicapped," Unpublished doctoral dissertation, Wayne State University, 1971.

Menosky, Dorothy M. "A Psycholinguistic Description of Oral Reading Miscues Generated During the Reading of Varying Portions of Text By Selected Readers From Grades Two, Four, Six and Eight," Unpublished doctoral dissertation, Wayne State University, 1971.

Page, William D. "A Psycholinguistic Description of Patterns of Miscues Generated by a Proficient Reader in Second Grade, an Average Reader in Fourth Grade, and an Average Reader in Sixth Grade Encountering Ten Basal Reader Selections Ranging From Pre-Primer to Sixth Grade," Unpublished doctoral dissertation, Wayne State University, 1970.